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COLE-FLEX CORP.

91 Cabot Street · West Babylon, N.Y. 11704

industry's most complete catalog of insulating materials

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COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

irradiated polyolefin shrinkable tubing

CONFORMS TO MIL-I-23053/5

SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAGE

FEWER SIZES COVERING MORE APPLICATIONS

OPERATING TEMP. RANGE: −55°C to +135°C

STOCK COLORS: BLACK WHITE, RED, YELLOW, BLUE, AND CLEAR

CONFORMS TO MIL-I-23053B/5 CLASS 1 & 2

Cole-flex Number	Size (Inches)	Min. I.D. Before Shrinkage (Inches)	Recovered I.D. After Shrinkage (Inches)	Recovered Nom. Wall Thickness (Inches)	Standard Package 4′ Lengths Total Footage	Standard Package 4′ Lengths No. of Lengths	Standard Package 6″ Lengths Total Footage	Standard Package 6″ Lengths No. of Lengths
ST-221-3/64″	3/64	.046	.023	.016	100′	25	20′	40
ST-221-1/16″	1/16	.063	.031	.017	100′	25	18′	36
ST-221-3/32″	3/32	.093	.046	.020	100′	25	16′	32
ST-221-1/8″	1/8	.125	.062	.020	100′	25	14′	28
ST-221-3/16″	3/16	.187	.093	.020	100′	25	12′	24
ST-221-1/4″	1/4	.250	.125	.025	100′	25	10′	20
ST-221-3/8″	3/8	.375	.187	.025	100′	25	8′	16
ST-221-1/2″	1/2	.500	.250	.025	20′	5	7′	14
ST-221-3/4″	3/4	.750	.375	.030	20′	5	6′	12
ST-221-1	1	1.000	.500	.035	20′	5	4′	8
ST-221-1 1/2″	1 1/2	1.500	.750	.040	20′	5	2.5′	5
ST-221-2	2	2.000	1.000	.045	20′	5	1.5′	3
ST-221-3	3	3.000	1.500	.050	8′	2	1′	2
ST-221-4	4	4.000	2.000	.055	8′	2	.5′	1

*STANDARD PACKAGE ST-221 Tubing is available ONLY in the specified packages. When ordering, indicate package desired (6 inches or 4 foot).

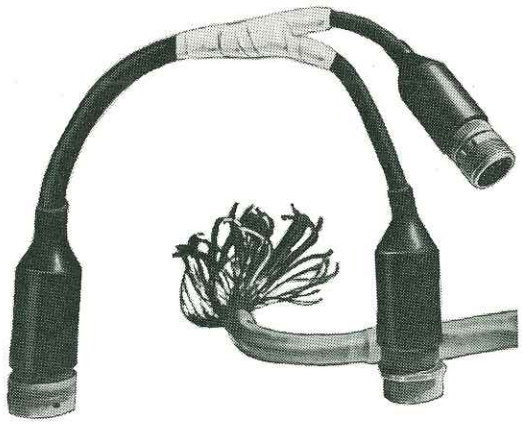
Cole-flex ST-221 Shrinkable Tubing, when heated, forms a tight-mechanical bond, even over irregularly shaped materials. ST-221 is available in a range of colors and in clear.

ST-221 is an all-purpose polyolefin extruded tubing that is simple to use and provides a tight mechanical bond. ST-221 is an irradiated, thermally stable, modified polyolefin base product. ST-221 Clear may be used so that jacketed, printed components or cable data is clearly visible and inspection of insulated components, cables or terminations is simplified.

The tubing is supplied in an expanded form and easily slips over the object to be covered. When a temperature of approximately 275°F. (135°C.) is applied, it immediately returns to its predetermined size (approximately one-half smaller) and forms a permanent tight-fitting mechanical bond. ST-221 Tubing will not cold-flow or melt but retains form stability throughout its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is 5% maximum when completely recovered.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 225°F. to 255°F. Shrinkage will begin at 235°F., but at a somewhat slower rate. When using an oven, temperature may range from 235°F. to 300°F. Prolonged exposure to these temperatures will not affect the physical or electrical properties of ST-221 Shrinkable Tubing. ST-221 Clear Tubing remains transparent over its entire operating range of −55°C. to 135°C.

FLAMMABILITY: Although ST-221 Clear is a high temperature material, it is flammable and will burn. However, when the tubing is shrunk over non-flammable or flame-resistant components, such as connectors, terminals and wire, the entire assembly will not support combustion.



Assorted sizes and colors per box — contains an assortment of 6″ lengths in various sizes and colors. Every length identified as to size and supplied in Black, White, Red, Yellow, Blue, and Clear.

Cole-flex Number	Tubing Size Range	Lengths Per Box
STA-1	3/64″ thru 3/16″	30
STA-2	1/4″ thru 3/4″	16
STA-3	1″ thru 4″	10

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

NEW – irradiated polyolefin shrinkable tubing (industrial grade)

LONG LENGTHS — GOOD FOR CABLE JACKETING

Conforms to MIL-I-631D, Type F, Form U, Grade C, Class 1, Cat. 1

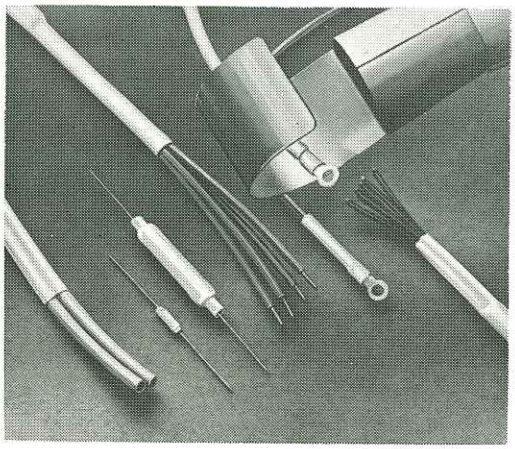
SHRINKAGE RATIO: 2:1 (50% Shrinkage)

OPERATING TEMPERATURE RANGE: −20°C to + 105°C

STOCK COLOR: Black

Cole-flex Number	Size (Inches)	Minimum I.D. Before Shrinking (Inches)	Recovered I.D. After Shrinking (Inches)	Nominal Wall Thickness (Inches)	Standard Put-up (Feet)
ST-205-3/64"	3/64	.046	.023	.020	25, 100, 1000
ST-205-1/16"	1/16	.062	.031	.020	25, 100, 1000
ST-205-3/32"	3/32	.093	.046	.020	25, 100, 1000
ST-205-1/8"	1/8	.125	.062	.025	25, 100, 1000
ST-205-3/16"	3/16	.187	.093	.025	25, 100, 1000
ST-205-1/4"	1/4	.250	.125	.025	25, 100, 500
ST-205-3/8"	3/8	.375	.187	.030	25, 100, 200
ST-205-1/2"	1/2	.500	.250	.030	25, 100, 200
ST1205-3/4"	3/4	.775	.375	.035	25, 100, 200
ST-205-1"	1	1.000	.500	.040	25, 100

Supplied in Continuous Lengths



Cole-flex ST-205 is an easy to use **irradiated** polyolefin tubing supplied in long lengths which make it an excellent cable jacketing material.

Although manufactured to commercial specifications it will meet MIL-I-631D Type F, Form U, Grade C, Class I, Cat. 1. for PVC tubing. Rated at 105°C, expanded to twice its recovered diameter, flexible, tough, it is an ideal material for insulating harnesses, cable cores and components.

Economically priced it is well suited for countless applications not requiring the temperature ratings of our other shrinkable products. ST-205 has an indefinite shelf life and will not shrink by aging.

Shrinkage occurs at 245°F. Shrinking Temperature recommended 245°F to 275°F.

Cole-flex Number	Tubing Size Range	Lengths Per Box
STA-5	3/64" thru 1/4" (6 sizes)	10 lengths per size (60 lengths)
STA-6	3/8" thru 1" (4 sizes)	10 lengths per size (40 lengths)

COLE-FLEX CORPORATION

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COLE-FLEX

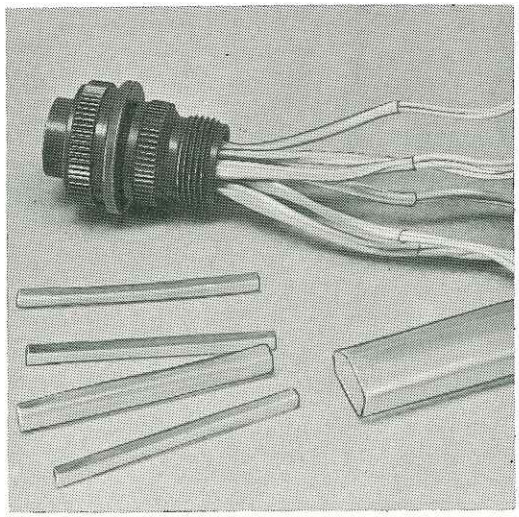
irradiated polyolefin semi-rigid shrinkable tubing

CONFORMS TO MIL-I-23053B/6A

OPERATING TEMPERATURE: −55°C. to +135°C.

MAXIMUM STRENGTH AT STRESS POINTS

SHRINKAGE RATIO: 2:1 (50% Shrinkage)



ST-295 Shrinkable Tubing is designed to provide maximum mechanical strength at stress or connection points. An extremely strong, heavy wall, abrasion-resistant, extruded tubing ST-295 is supplied in expanded form and easily slips over the object to be covered.

When a temperature of approximately 275°F. (135°C.) is applied, ST-295 immediately returns to its predetermined size (approximately ½ smaller) and forms a permanent tight-fitting mechanical bond. ST-295 will not cold-flow or melt but retains form stability throughout its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is less than 5% when completely recovered.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 275°F. to 300°F. When using an oven, temperature may range from 235°F. to 300°F. Prolonged exposure to these temperatures will not affect the physical or electrical properties of ST-295 Tubing.

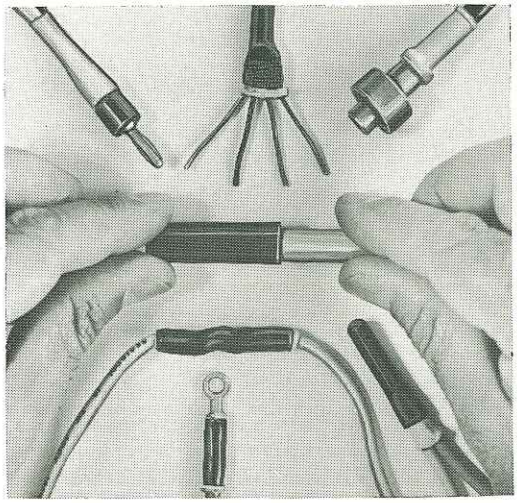
FLAMMABILITY: Although ST-295, Clear, is a high temperature material, it is flammable and will burn. However, when the tubing is shrunk over non-flammable or flame-resistant components, such as connectors, terminals and wires, the entire assembly will not support combustion.

Cole-flex Cat. No. 4 Ft. Length	Catalog No. 6 Inch Length	Size (Inches)	Minimum I.D. Before Shrinking (Inches)	Recov'd I.D. Shrinking (Inches)	Nominal Thick-ness (Inches)	Standard Pkg.* 4 Ft. Lengths Total Ftg.	Standard Pkg.* 4 Ft. Lengths No. Lengths	Standard Pkg.* 6 In. Lengths Total Ftg.	Standard Pkg.* 6 In. Lengths No. Lengths	Stock Colors
ST-295 3/64-4	ST-295 3/64-6	3/64	.046	.023	.020	100′	25	20′	40	Yellow, Clear
ST-295 1/16-4	ST-295 1/16-6	1/16	.063	.032	.020	100′	25	18′	36	White, Clear
ST-295 3/32-4	ST-295 3/32-6	3/32	.093	.045	.020	100′	25	16′	32	Blue, Clear
ST-295 1/8 -4	ST-295 1/8 -6	1/8	.125	.063	.020	100′	25	14′	28	Red, Clear
ST-295 3/16-4	ST-295 3/16-6	3/16	.187	.093	.025	100′	25	12′	24	Green, Clear
ST-295 1/4 -4	ST-295 1/4 -6	1/4	.250	.125	.025	100′	25	10′	20	Slate, Clear
ST-295 3/8 -4	ST-295 3/8 -6	3/8	.375	.187	.030	100′	25	8′	16	Brown, Clear
ST-295 1/2 -4	ST-295 1/2 -6	1/2	.500	.250	.030	20′	5	7′	14	White, Clear

PACKAGED ASSORTMENTS

Contains an assortment of 6″ lengths in all sizes.

Cole-flex Number	Tubing Size Range	Lengths Per Box
STA-4	3/64″ thru 1/2″ (8 sizes)	5 lengths per size (40 lengths)



COLE-FLEX CORPORATION

91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

irradiated kynar* high temperature shrinkable tubing

CONFORMS TO MIL-I-23053/8

OPERATING TEMPERATURE RANGE: −55°C to +175°C

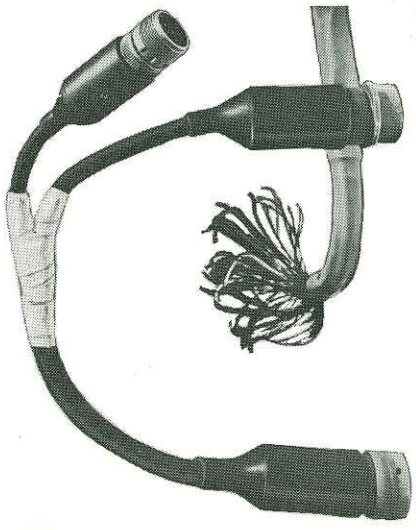
A TOUGH, THIN WALL TUBING WITH OUTSTANDING CUT-THROUGH AND ABRASION RESISTANCE. SEMI-RIGID POLYVINYLIDENE FLUORIDE. 10 SIZES COVER COMPLETE RANGE OF .032 — 1 INCH. CLEAR AND NON-FLAMMABLE.

SHRINKAGE RATIO: 2:1 (50% Shrinkage)

STOCK COLORS: Clear Only.

STANDARD PACKAGE:
ST-350 tubing is available only in the specified packages. When ordering, indicate package desired (16 inches or 4 foot). Can be furnished **cut to length** on order.

Cole-flex Number	Min. I.D. Before Shrinkage (Inches)	Recovered I.D. After Shrinkage (Inches)	Recovered Nom. Wall Thickness (Inches)	Standard Package 4′ Lengths		Standard Package 6″ Lengths	
				Total Footage	No. of Lengths	Total Footage	No. of Lengths
ST-350-3/64″	.046	.023	.010	100′	25	16′	32
ST-350-1/16″	.063	.031	.010	100′	25	14′	28
ST-350-3/32″	.093	.046	.010	100′	25	12′	24
ST-350-1/8″	.125	.062	.010	100′	25	10′	20
ST-350-3/16″	.187	.093	.010	100′	25	8′	16
ST-350-1/4″	.250	.125	.012	100′	25	6′	12
ST-350-3/8″	.375	.187	.012	100′	25	4′	8
ST-350-1/2″	.500	.250	.012	20′	5	2′	4
ST-350-3/4″	.750	.375	.017	20′	5	1′	2
ST-350-1″	1.000	.500	.019	20′	5	.5′	1



Cole-flex ST-350 is a new shrinkable tubing with outstanding temperature and physical characteristics and high dielectric strength. **Longitudinal shrinkage is only 5%.**

ST-350 is an extremely tough extruded tubing that can be repeatedly flexed, bent, or twisted without loss of its mechanical or electrical strength. Supplied as a clear tubing, ST-350 may be used where inspection or identification of the item covered is necessary.

When a temperature of approximately 347°F. (175°C.) is applied, the tubing immediately returns to its predetermined size (approximately one-half smaller) and forms a permanent, tough mechanical bond.

ST-350 will never cold flow or melt and will not split when shrunk over sharp or irregularly shaped objects.

ST-350 is non-flammable and will operate continuously at temperatures from −55°C to +175°C. It will withstand intermittent heat shock at temperatures up to 350°C.

Compared with other fluorocarbon tubing types, ST-350 has markedly superior abrasion, cut-through, and cold flow properties.

SHRINKING METHODS: The use of a hot air gun is recommended as being generally the easiest heating method. However, excellent results may be achieved by the use of an oven, radiant heat, dipping in hot liquids, or heating with a soldering iron, burner, or even the flame of a match.

* T.M. PENNSALT.

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

heat shrinkable (TFE) teflon* tubing-thin wall

CONFORMS TO: MIL-I-23053/12

- Continuous operating range –67° – + 250°C
- Outstanding chemical and solvent resistance
- Non Flammable

The use of **Expanded TFE Tubing** can make available for the unique properties of TFE for many applications previously impossible or impractical. Due to its physical properties, the extrusion, expansion, and recovery of TFE Tubing requires extreme care and attention. Because the material does not melt in the ordinary sense but does exhibit a physical change at an elevated temperature it is possible for form and cure tubing. It is further possible to expand such tubing so that when heated its "memory" of orientation will cause it to recover to its original cured size.

Also, since TFE does not melt in the ordinary sense, it can be overheated to a harmful point without visible evidence at the time.

The recommended temperatures for proper shrinking without harm to TFE are between 625°F and 675°F.

Recovery of **Expanded TFE Tubing** requires that the material be brought to the "gel" or amorphous state. A minimum temperature of 623°F is required to produce this change. The "gel" state is visible, since the TFE will turn from translucent to clear or transparent. The material need only be brought to a complete "gel" state and then cooled to produce satisfactory shrinkage. Shrinking begins when the material enters the "gel" and is completed when, upon cooling, it returns to the crystalline state.

Types of heat sources are not in themselves important. The use of open flames, heat guns, convection ovens, muffle ovens, or hot salts or oils will do the job. The important factors are to be sure all of the material reaches the "gel" state and that none of it overheats.

SUPPLIED IN 4FT LENGTHS,
In standard packages of 100 ft.

COLOR: Natural
AVAILABLE IN LARGER SIZES
HEAVIER WALLS

*DuPont Trade Name

2 TO 1 SHRINKAGE RATIO

Cole-Flex Cat. No.	AWG Size #	Expanded Inside Diameter Min. (Inches)	Recovered Inside Diameter Max. (Inches)	Recovered Wall Thickness (Inches)
ST-500-30	30	.034	.015	.009 ± .002
ST-500-28	28	.038	.018	.009 ± .002
ST-500-26	26	.046	.022	.009 ± .002
ST-500-24	24	.050	.027	.010 ± .002
ST-500-22	22	.055	.032	.010 ± .002
ST-500-20	20	.060	.039	.012 ± .003
ST-500-19	19	.065	.043	.012 ± .003
ST-500-18	18	.076	.049	.012 ± .003
ST-500-17	17	.085	.054	.012 ± .003
ST-500-16	16	.093	.061	.012 ± .003
ST-500-15	15	.110	.067	.012 ± .003
ST-500-14	14	.120	.072	.012 ± .003
ST-500-13	13	.140	.080	.012 ± .003
ST-500-12	12	.150	.089	.012 ± .003
ST-500-11	11	.170	.101	.012 ± .003
ST-500-10	10	.191	.112	.012 ± .003
ST-500-9	9	.205	.124	.015 ± .004
ST-500-8	8	.240	.141	.015 ± .004
ST-500-7	7	.270	.158	.015 ± .004
ST-500-6	6	.302	.178	.015 ± .004
ST-500-5	5	.320	.198	.015 ± .004
ST-500-4	4	.370	.224	.015 ± .004
ST-500-3	3	.390	.249	.015 ± .004
ST-500-2	2	.430	.278	.015 ± .004
ST-500-1	1	.450	.311	.015 ± .004
ST-500-0	0	.470	.347	.015 ± .004

4 TO 1 SHRINKAGE RATIO

Cole-Flex Cat. No.	Order as: I.D. (Inches)	Expanded Inside Diameter (Inches) Minimum	Recovered I.D. (Inches) Maximum	Wall Thickness (Inches) Nominal
ST-550-5/64	5/64	0.078	0.025	0.009 ± .002
ST-550-1/8	1/8	0.125	0.037	0.010 ± .002
ST-550-3/16	3/16	0.187	0.050	0.012 ± .003
ST-550-1/4	1/4	0.250	0.063	0.012 ± .003
ST-550-5/16	5/16	0.312	0.078	0.012 ± .003
ST-550-3/8	3/8	0.375	0.096	0.012 ± .003
ST-550-7/16	7/16	0.348	0.112	0.012 ± .003
ST-550-1/2	1/2	0.500	0.144	0.015 ± .004
ST-550-9/16	9/16	0.562	0.155	0.015 ± .004
ST-550-5/8	5/8	0.625	0.178	0.015 ± .004
ST-550-11/16	11/16	0.687	0.198	0.015 ± .004
ST-550-3/4	3/4	0.750	0.224	0.015 ± .004
ST-550-7/8	7/8	0.875	0.224	0.015 ± .004
ST-550-1	1	1.000	0.278	0.015 ± .004
ST-550-1¼	1-¼	1.250	0.347	0.015 ± .004
ST-550-1½	1-½	1.500	0.400	0.015 ± .005
ST-550-1¾	1-¾	1.750	0.450	0.015 ± .005
ST-550-2	2	2.000	0.520	0.020 ± .005

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

heat shrinkable FEP teflon* tubing

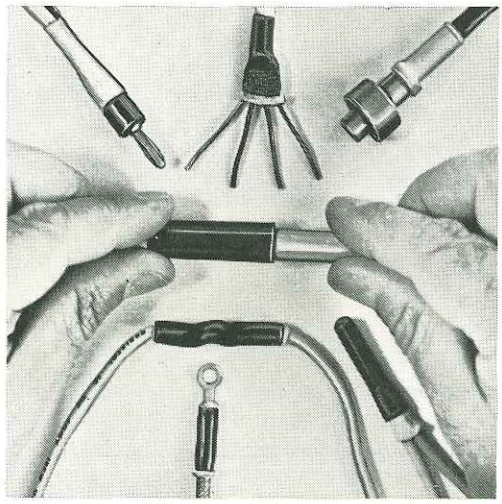
2 TO 1 SHRINKAGE RATIO

CONTINUOUS OPERATING TEMPERATURE: 400°F
WILL NOT BURN OR SUPPORT FLAME
CHEMICALLY INERT

Cole-Flex's Heat Shrinkable FEP Teflon* will shrink promptly upon exposure to moderate heat. Heat sensitive components, soldered joints, plastic, metal or wood parts that could not be protected before because of the high temperatures required for shrinkage can now be covered with FEP Teflon* with complete shrinkage upon exposure to 350°F and partial shrinkage at temperatures as low as 200°F. It is manufactured from virgin FEP Teflon*, supplied in a natural color (transparent light blue) and offers all the excellent electrical and mechanical characteristics of FEP Teflon.*

*DuPont Reg. Trade Name

Cole-Flex Cat. No.	Nominal Size	Expanded ID	Recovered ID	Recovered Wall Thickness	Wall Tolerance +/–
ST-400-24	AWG 24	.031″	.027″	.008	.002
ST-400-22	22	.036″	.032″	.008	.002
ST-400-20	20	.045″	.039″	.008	.002
ST-400-18	18	.060″	.049″	.008	.002
ST-400-16	16	.075″	.061″	.009	.002
ST-400-14	14	.092″	.072″	.009	.002
ST-400-12	12	.115″	.089″	.009	.002
ST-400-10	10	.141″	.114″	.010	.003
ST-400-9	9	.158″	.124″	.010	.003
ST-400-8	8	.180″	.143″	.010	.003
ST-400-7	7	.197″	.158″	.011	.004
ST-400-6	6	.225″	.180″	.011	.004
ST-400-5	5	.248″	.198″	.011	.004
ST-400-4	4	.290″	.226″	.011	.004
ST-400-3	3	.310″	.249″	.011	.004
ST-400-2	2	.365″	.280″	.012	.004
ST-400-1	1	.400″	.311″	.012	.004
ST-400-0	0	.440″	.349″	.012	.004
ST-400-3/8	3/8	.500″	.383″	.015	.004
ST-400-7/16	7/16	.580″	.448″	.020	.004
ST-400-1/2	1/2	.666″	.510″	.020	.004
ST-400-5/8	5/8	.830″	.637″	.025	.004
ST-400-3/4	3/4	1.000″	.764″	.030	.004
ST-400-7/8	7/8	1.170″	.891″	.035	.004
ST-400-1	1	1.330″	1.020″	.035	.004



STOCK COLOR: Natural (Transparent Light Blue)
STANDARD PACKAGE: #24 thru #6 – 100′ in Random lengths over 3′ Long.
#5 thru 1″ 100′ in Random Lengths over 1′ Long.
Can be cut to short exact lengths to order.
Available with outside and/on inside surface etched for bonding to order.

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

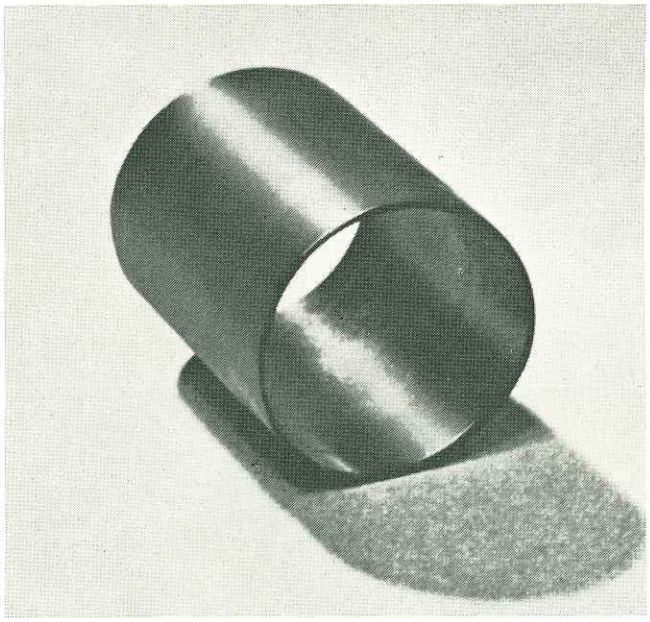
irradiated heat shrinkable neoprene tubing

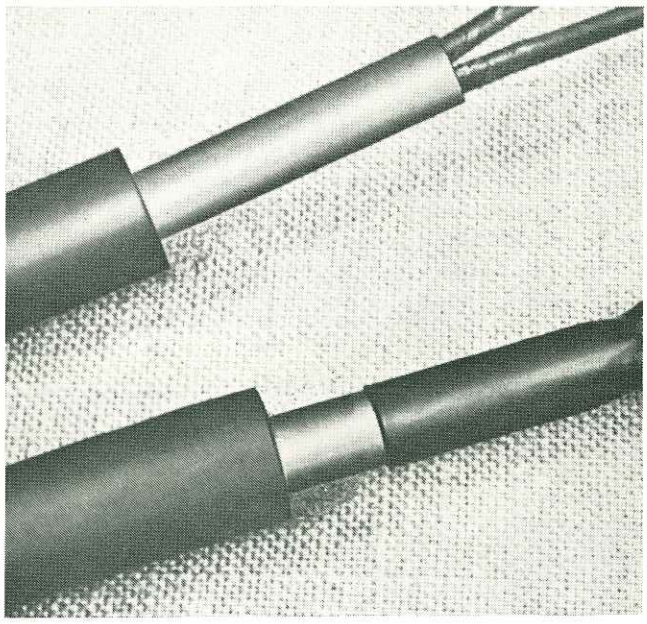
OPERATING TEMPERATURE:
—55°C TO +90°C

MEETS MIL-I-23053/B/1
AND AMS 3623

STANDARD COLOR: BLACK

Cole-Flex Neoprene Tubing Type ST-700 is fabricated from an irradiated thermally stabilized, modified neoprene rubber composition which is homogenous in nature. The tubing is supplied in its expanded state and upon application of heat in excess of 135°C will shrink to approximately ½ its original diameter. Cole-Flex Heat Gun GUN-1 will adequately provide the heat for shrinkage. ST-700 is extremely flexible throughout its rated temperature range and is ideal for any cable jacketing applications where a tough flexible covering is needed under a wide variety of environmental conditions. **Irradiated Neoprene Shrinkable Tubing** will not support fungus. It's dielectric strength is 400v per mil. Tensile is 1500PSI minimum. Elongation 400% Min. Hardness Shore A Durometer 80. Heat Ageing 96 hours at 100 C — no cracking, flowing or dripping. Flammability is 15 seconds max. and within 3" self extinguishing.





STORAGE INSTRUCTIONS FOR MAXIMUM DIMENSIONAL STABILITY

1 Month Under 100°F
4 Months Under 85°F
12 Months Under 70°F

Keep out of Direct Sunlight

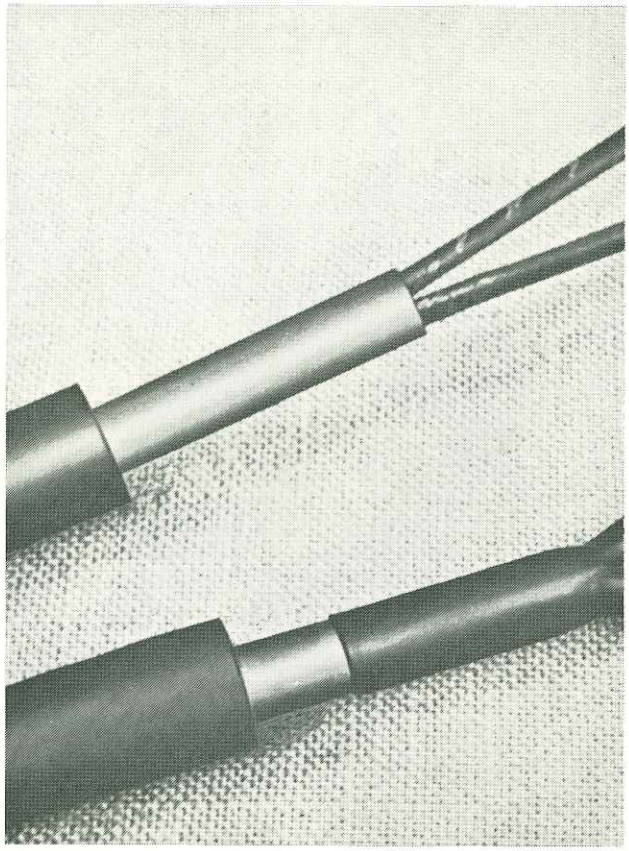
Cole-Flex Cat. No.	Expanded I.D. Min.	Recovered I.D. Max.	Recovered Wall Nom.	Standard Put-Up
ST-700-¼	.250"	.143"	.035	300'
ST-700-⅜	.375"	.214"	.040	300'
ST-700-½	.500	.286	.048	300'
ST-700-⅝	.625	.357	.052	300'
ST-700-¾	.750	.428	.057	200'
ST-700-⅞	.875	.500	.065	200'
ST-700-1	1.00	.570	.070	200'
ST-700-1-¼	1.25	.714	.087	100'
ST-700-1-½	1.50	.857	.095	100'
ST-700-2	2.0	1.14	.130	100'

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

heat shrinkable P.V.C. (vinyl) tubing

NON-IRRADIATED
2 TO 1 SHRINKAGE RATIO
MEETS MIL-I-23053/2
MIL-I-631D
OPERATING TEMPERATURE:
—20°C TO +105°C



Cole-Flex ST 100 is a thin wall, flexible tubing manufactured from high temperature PVC compounds with a continuous duty rating of 105°C. As supplied in its expanded state it will shrink to approximately ½ half its diameter when subjected to heat of 200°F. Because of its "plastic memory" ST-100 is able to be expanded and will remain in its expanded state without irradiation. When heated it will return to its original extruded diameter. **Cole-Flex ST 100** is resistant to ozone, sunlight, oil, moisture, fungus and has self extinguishing flame characteristics. It will meet or exceed the applicable portions of MIL I-631D. Since ST-100 is not irradiated it maintains all the excellent characteristics of PVC making it an all-purpose shrinkable tubing at an extremely economical cost.

Longitudinal shrinkage is approximately 20% in the largest sizes tending to reduce in the smaller sizes.

Cole-Flex Cat. No.	Expanded I.D. (Inches)	Recovered I.D. (Inches)	Recovered Wall Thick. (Inches)
ST-100-⅛	.125	.063	.025
ST-100-3/16	.187	.093	.025
ST-100-¼	.250	.125	.025
ST-100-⅜	.375	.187	.025
ST-100-½	.500	.250	.030
ST-100-¾	.750	.375	.030
ST-100-1	1.00	.500	.030

STORAGE INSTRUCTIONS FOR MAXIMUM DIMENSIONAL STABILITY

1 Month Under 100°F
4 Months Under 85°F
12 Months Under 70°F

STOCK COLORS: Black and Clear. Other Colors Available to Order.

STANDARD PUT-UPS: Continuous Spools of 25′ - 100′ - 500′ - 1000′.

COLE-FLEX CORPORATION
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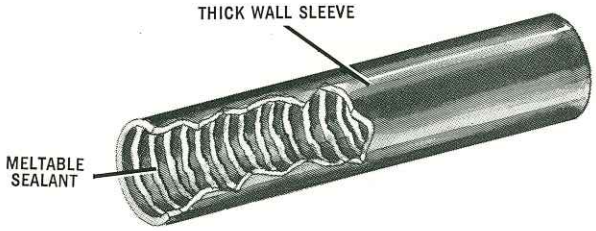
COLE-FLEX

heat shrinkable connector covers

for catv-matv coaxial cable splices -self sealing-thick wall



WATERPROOFS—ENCAPSULATES—INSULATES—SEALS.
FOR FLEXIBLE AND SEMI-RIGID DROPS AND TRUNKS.
IDEAL FOR UNDERGROUND AND OVERHEAD INSTALLATIONS.
FITS ALL SIZES FROM RG 59/U TO 1 INCH SEMI RIGID
OPERATING TEMPERATURE: —65°C TO +130°C

Cole-Flex SPC Splice Covers have been designed to waterproof and protect any coaxial cable splice joint. Manufactured from modified thermally stabilized irradiated polyolefin SPC Splice Covers will shrink approximately to ⅓ its original diameter upon application of 275°F heat. The inside surface of the SPC Sleeve is coated with a low temperature melt thermo-plastic liner which liquifies during the heating operation, flows into the irregularities of the connector, and upon cooling will harden and provide a watertight, corrosion resistant seal between the cable and connector. Because of its thick wall construction and the properties of the material it will protect the splice area for the life of the system. The internal sealant will adhere to both jacketed and un-jacketed cables (Aluminum and Copper). They eliminate the need for Silicon Greases or Neoprene Boots. Excellent for both underground and pole line installation the SPC covers prevent moisture penetration, the greatest cause of attenuation losses in cable systems. May also be used to repair jacket damage in trunk or drop lines.

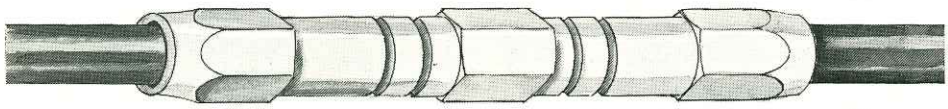
In application, the splice is made using conventional connectors in the usual method. Before connection an SPC Cover is slipped over one end, the connector is then put together and tightened. The SPC Cover is then placed over the connector with between 1 and 2 inches overlapping each end of the cable. It is heated with either a Hot Air Gun or a Cole-Flex Butane Torch, GUN-2 from the center towards the ends. The SPC Cover will shrink down over the entire area, the liner will melt and when cool the entire splice is completed. The entire covering operation should take no more than three minutes.

Cole Flex Catalog Number	Min. Expanded I.D. (as supplied)	Recovered I.D. Max. (after shrink)	Recovered Wall Nom. (after shrink)	For Cable Types	Standard Lengths (inches)
SPC 750	.750"	.220"	.095"	RG 59, 6	4, 6, 8
SPC 110	1.1"	.375"	.105"	RG11, .412- un-jacketed	6, 8, 10, 12
SPC 150	1.5"	.500"	.120"	.412-jacketed and .500	6, 8, 10, 12
SPC 180	1.8"	.700"	.100"	.750-1"	6, 8, 10, 12

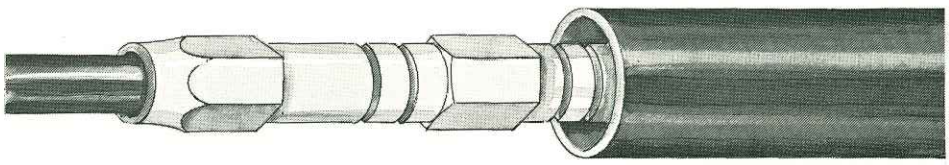
NOTES: The above cable size recommendations are for guidance only. Since there are dozens of connector types available and a variety of combinations on cable/connector configurations, the installer should make sure that the SPC sleeve selected will fit easily over the widest part of the assembly and yet shrink to the diameter of the cable used. The greater the shrink down the thicker the wall of the sleeve. Other sizes of sleeves for use can be seen on page 12. Overheating **will not** shrink the SPC sleeve beyond its maximum recovered diameter. When using propane or butane torches make sure the flame is spread and is kept moving so as not to burn or scorch sleeve.

SPC sleeves are available without melt liner and in other lengths.

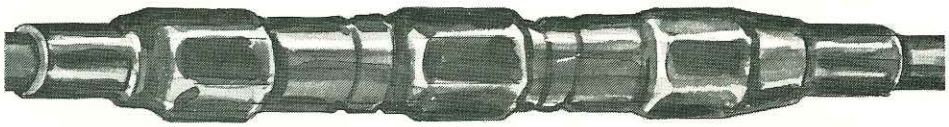
STANDARD COLOR: BLACK.



1. Connector tightened over cable.



2. SPC Cover being placed over connector.



3. SPC Cover shrunk down over connector after heat treatment.

COLE-FLEX CORPORATION
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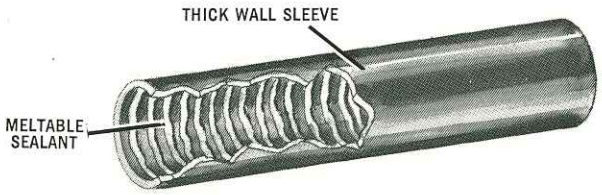
COLE-FLEX

heat shrinkable insulation covers

for electrical compression splices-self sealing-thick wall



WATERPROOFS—ENCAPSULATES—INSULATES—SEALS.
FOR 600 VOLT USE
OPERATING TEMPERATURE: —65°C TO +130°C
FOR UNDERGROUND OR OVERHEAD APPLICATIONS
USED WITH THW, TW, RHW, XLP, THHN, XHHW CABLES.
MAY BE USED WITH COPPER OR ALUMINUM SPLICES
DESIGNED TO FIT BURNDY, T&B,
PENN UNION COMPRESSION SPLICES

Cole-Flex Splice Covers Type SPC are manufactured from modified, irradiated polyolefin materials which upon application of 275°F. will shrink to approximately ⅓ its original diameter. The inside surface of the SPC sleeve is coated with a low temperature melt thermo-plastic liner which liquifies during the shrinking operation, flows into the irregularities of the spice and cable and upon cooling hardens and provides a watertight, encapsulated seal. The sleeve will adhere to plastic insulation as well as copper or aluminum splices and will last for the life of the system. Because of its thick wall construction and excellent insulating properties, it is rated for use up to 600 volts. They provide complete waterproofing, insulation, abrasion and corrosion resistance for connector and splice areas in secondary power cable systems.

In application, the cable is stripped, an SPC cover is slipped over the cable, the compression splice is made, the SPC cover is then placed over the splice with about two inches overlapping each cable. The SPC cover is then heated with either a Hot Air Gun or Cole-Flex Butane Torch GUN-2 from the center working to the ends. The SPC Sleeve will shrink down over the entire area, the liner will melt and when cooled the entire splice is completed.

PHYSICAL PROPERTIES

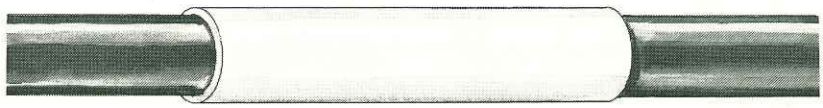
Tensile Strength—2000PSI Per ASTM D638
Ultimate Elongation—300% Min. Per ASTM D638
Dielectric Strength—500 v. Per mil. Min. Per ASTM D149
Longitudinal Change—No greater than 5%
Water Absorbtion—.5% Max.
Dielectric Constant—4.0 Max. Per ASTM D150
Operating Temperature: −65°C to +130°C

Cole Flex Cat. #	Min. Expand. I.D. (as supplied)	Wall Thickness Min. (as supplied)	Recovered I.D. Max. (after shrink)	Recovered Wall (nom.)	Standard Lengths (inches)	For Cable Sizes Copper	For Cable Sizes Aluminum
SPC 400	.400″	.030″	.150″	.060″	4, 6, 8	#6-#4	#6-#4
SPC 750	.750″	.030″	.220″	.090″	4, 6, 8, 10	#6-4/0	#2-2/0
SPC 800	.800″	.025″	.250″	.085″	6, 8, 10, 12	—	—
SPC 110	1.1″	.040″	.375″	.105″	6, 8, 10, 12	—	—
SPC 130	1.3″	.035″	.650″	.100″	6, 8, 10, 12	—	—
SPC 150	1.5″	.050″	.500″	.120″	8, 10, 12, 14	#1-500 McM	1/0-350 McM
SPC 180	1.8″	.030″	.700″	.100″	8, 10, 12, 14	4/0-850 McM	3/0-750 McM
SPC 200	2.0″	.050″	.750″	.140″	8, 10, 12, 14	—	—
SPC 300	3.0″	.050″	1.25″	.155″	8, 10, 12, 14	1000 McM-2000 McM	750 McM-2000 McM

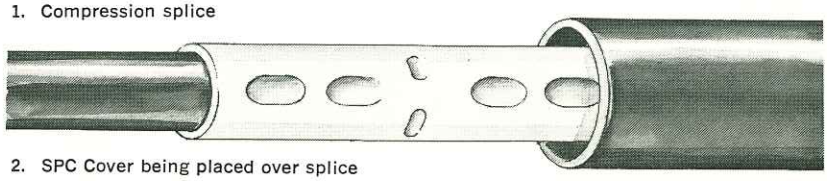
NOTE: The above cable selections are for guidance only. Because of the SPC 3 to 1 shrinkage ratio several different SPC sleeves can be used for the same cable size. Always use the SPC sleeve which will fit easily on the splice but **shrink the greatest amount.** As the SPC sleeve shrinks the wall thickness increases therefore the greater the shrinkage the thicker the wall. Over heating will not shrink the SPC sleeve beyond its maximum recovered I.D.

When using a propane or butane torch make sure the flame is spread so as to prevent burning. SPC sleeves are available without inside melt liners and in other than listed lengths.

Standard color is black.



1. Compression splice



2. SPC Cover being placed over splice

3. SPC Cover shrunk down over splice after heat treatment

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

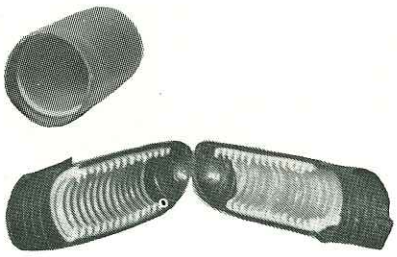
irradiated polyolefin TYT-caps

Polyolefin TYT Caps are short lengths of semi-rigid Shrinkable Tubing sealed on one end and specifically designed to act as termination caps over wire, cable and splices. Polyolefin Caps, with controlled shrinkage, form a tight-fitting mechanical bond over terminations.

Made of flame resistant, extremely tough, abrasion-resistant polyolefin tubing, the caps shrink and seal the ends of one or more wires, making a firmly encapsulated, moisture-resistant termination. Controlled shrinkage to the correct predetermined size takes place within seven seconds at 275° F to 300°F. Shrinkage Ratio 2:1.

Cole-Flex No.	Minimum I.D. Before Shrinking (Inches)	Recovered I.D. After Shrinking (Inches)	Nominal Wall Thick. (Inches)	Nominal Length (Inches)	Stock Colors	Standard Package Put-up (Pieces)
TYT-1	.063	.025	.016	¾	White	100 or 1000
TYT-2	.125	.050	.020	1	Red	100 or 1000
TYT-3	.250	.100	.025	1¼	Slate	100 or 1000
TYT-4	.350	.175	.035	1⅓	Brown	100 or 1000
TYT-5	.500	.250	.040	1½	Black	100 or 1000

self-encapsulating TYT-caps



A new method of wire encapsulation that allows permanent, abriasion resistant moisture proof encapsuiations without molding, potting, or special tools.

Molded caps are made of a molded, heat shrinkable, cross-linked polyolefin with two inserts. The insert at the closed end of the cap melts and flows between the splice forming a moisture proof encapsulation. The insert near the open end acts as a dam, preventing the molten material from flowing out beyond the cap. Cap shrinks and melts at 275°F.

STOCK COLOR: Black

Cole-Flex No.	Min. I.D. Before Shrinkage (Inches)	Recovered I.D. After Shrinkage (Inches)	Nominal Inner Wall Thick. (Inches)	Nominal Outer Wall Thick. (Inches)	Nominal Length (Inches)	Standard Package Put-up (Pieces)
TYT-11	.160	.080	.013	.040	1.12	10 or 25
TYT-12	.250	.120	.020	.050	1.25	10 or 25
TYT-15	.360	.180	.030	.060	1.50	10 or 25

molded TYT-caps

Cole-Flex molded TYT Caps are made of molded Polyolefin that shrinks when heated in excess of 125°C to a predetermined size and shape designed expressly as end caps for wire and cable terminations. They provide a tough abrasion resistant outer cover for wire splices as well as a covering for any other components were one end must be sealed. Shrinkage ratio is 2 to 1. up to ½" and almost 3 to 1 in the larger sizes.

STOCK COLOR: Black

Cole-Flex Cat. No.	Expanded I.D. (Inches)	Recovered I.D. (Inches)	Wall Thickness (Inches)	Length (Inches)
TYT-21	.125	.050	.020	1.0
TYT-22	.250	.100	.025	1.125
TYT-23	.375	.175	.035	1.30
TYT-24	.500	.250	.040	1.50
TYT-26	.940	.370	.080	3.50
TYT-27	1.87	.750	.100	4.50
TYT-29	3.00	1.250	.110	7.00
TYT-32	6.25	2.50	.120	7.00

STANDARD PACKAGE: 10-25-100 PIECES

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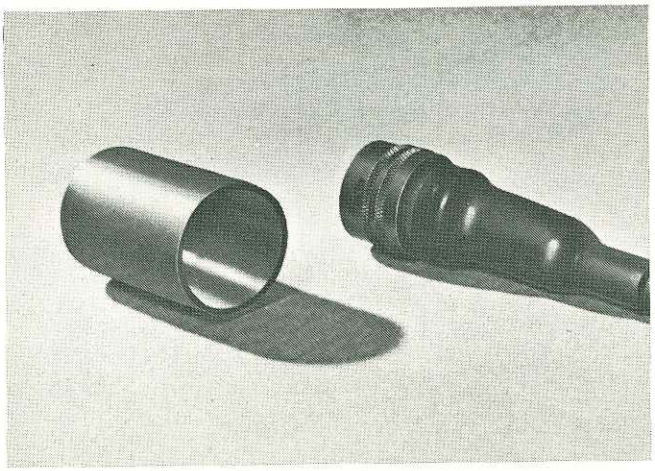
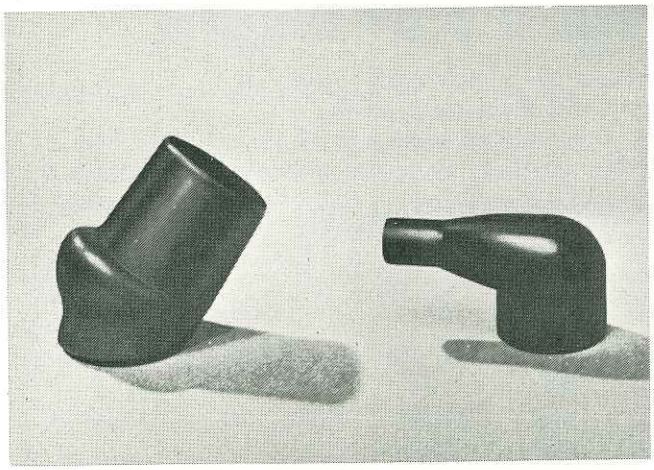
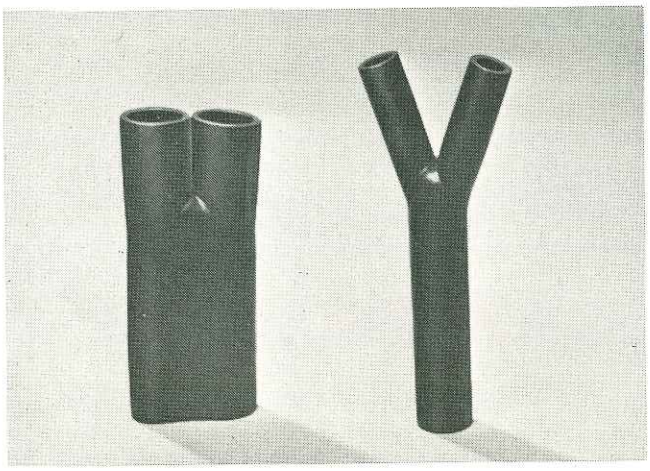
COLE-FLEX

irradiated heat shrinkable molded parts







Cole-Flex molded Parts-Series TYT – are Heat Shrinkable coverings manufactured from Irradiated Polyolefin. They are supplied in an expanded form. When heated they shrink to a pre-determined size and shape, providing a tough outer cover-for the objects over which they have been placed.

Cole-Flex Series TYT are available in a wide variety of shapes, sizes and thicknesses and are expressly designed to provide excellent electrical and thermal insulation, as well as mechanical strength and cosmetic improvement to connectors, harness assemblies and cable terminations.

Heat Shrinkability-"Plastic Memory" – is achieved by cross linking the molecular structure of the material after the part has been molded into the desired shape. The part is then heated expanded to as much as 4.5 times its original size, so that it will conveniently fit over a wide range of shapes. It will maintain this expanded form indefinitely until heated to shrink the part. The cross linkage causes it to return to its original molded shape, or conform to an object placed within the part.

Shrinkage occurs at 275° F and hot air guns of the type used to shrink tubing will work adequately.

BOOTS

Boots are large at one end and smaller at the other so they will shrink tightly onto the electrical connectors and onto the cable terminated in the connectors. They are available in a wide range of sized to fit almost all standard and miniature connectors. Straight boots, rectangular and right angled ones are all part of the **Cole-Flex** line.

TRANSITIONS

Transitions seal and protect breakout areas of electrical harnesses. To make assembly possible these transitions have unusual expanded shapes. To help users visualize how they can be applied in production the following pages show photographs of the parts "as supplied" and after full "recovery" as well as line drawings of the expanded and recovered dimensions.

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COLE-FLEX

heat shrinkable–straight connector boot

EXPANDED PART (AS SUPPLIED)

FULLY RECOVERED PART

RECOVERED PART, SCHEMATIC DRAWING

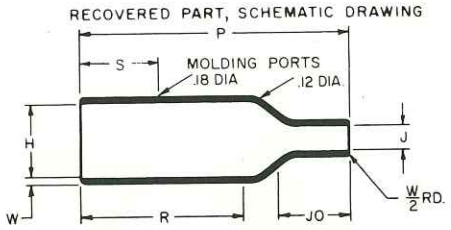


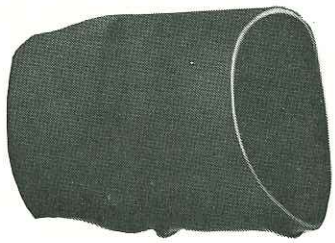
TABLE OF DIMENSIONS

Catalog Number	H MIN X	H MAX R	J MIN X	J MAX R	P MAX X	P ±20% R	R MAX X	R ±10% R	S X	S ±10% R	JO X	JO ±10% R	W X	W ±20% R
TYT-313-23	.92	.41	.92	.22	–	1.50	–	.90	–	.60	–	.40	–	.06
TYT-313-24	1.12	.56	1.12	.26	–	2.18	–	1.30	–	.70	–	.65	–	.07
TYT-313-25	1.22	.70	1.22	.28	–	2.60	–	1.50	–	.70	–	.70	–	.07
TYT-313-26	1.42	.88	1.42	.33	–	2.90	–	1.70	–	.70	–	.70	–	.07
TYT-313-27	1.68	1.11	1.68	.39	–	3.90	–	2.50	–	.70	–	.70	–	.08
TYT-313-28	2.04	1.38	2.04	.62	–	4.90	–	2.60	–	1.00	–	1.60	–	.12
TYT-313-29	2.60	1.75	2.60	.80	–	6.35	–	3.55	–	1.00	–	1.90	–	.15

X = EXPANDED
R = RECOVERED

heat shrinkable–right angle connector boot

EXPANDED PART (AS SUPPLIED)



FULLY RECOVERED PART

RECOVERED PART, SCHEMATIC DRAWING

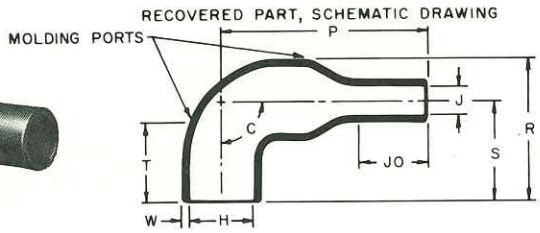


TABLE OF DIMENSIONS

Catalog Number	H MIN X	H MAX R	J MIN X	J MAX R	P ±10% – R	R ±10% – R	S ±10% – R	T ±10% – R	JO ±10% – R	W ±10% – R	C ±10° X	C ±5° R
TYT-333-24	1.12	.56	1.12	.26	– 1.06	– .95	– .73	– .70	– .28	– .06	180	90
TYT-333-25	1.25	.70	1.25	.28	– 1.40	– 1.20	– .81	– .70	– .34	– .07	180	90
TYT-333-26	1.50	.88	1.50	.33	– 1.70	– 1.40	– .90	– .70	– .50	– .07	180	90
TYT-333-27	1.70	1.10	1.70	.38	– 2.10	1.70	– 1.10	– .70	– .62	– .08	180	90
TYT-333-28	2.06	1.38	2.06	.62	– 3.10	– 2.10	– 1.30	– 1.00	– 1.20	– .13	180	90

X = EXPANDED
R = RECOVERED

COLE-FLEX CORPORATION
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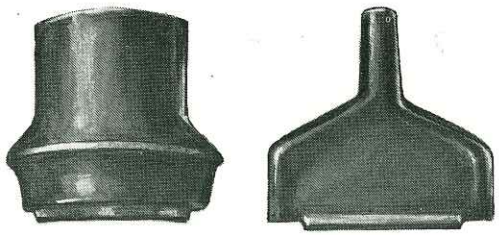
COLE-FLEX

heat shrinkable rectangular connector cover

EXPANDED PART (AS SUPPLIED)



FULLY RECOVERED PART

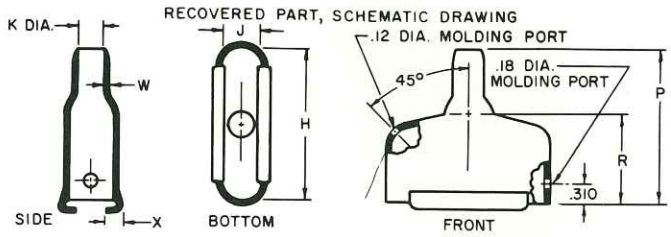


TABLE OF DIMENSIONS

Catalog Number	H MIN X	H ±5% R	J MIN X	J ±5% R	K MIN X	K MAX R	P MAX X	P ±10% R	R X	R ±10% R	W X	W ±20% R	W X	X ±20% R
TYT-325-42	.63	.80	.63	.42	.63	.16	1.30	1.31	–	.75	–	.04	–	.12
TYT-325-44	1.15	1.66	1.15	.42	1.15	.32	1.75	1.77	–	1.00	–	.04	–	.12
TYT-325-46	1.50	2.28	1.48	.54	1.50	.40	2.35	2.40	–	1.25	–	.04	–	.12

heat shrinkable transition 1 TO 2 45° Y

EXPANDED PART (AS SUPPLIED)

FULLY RECOVERED PART

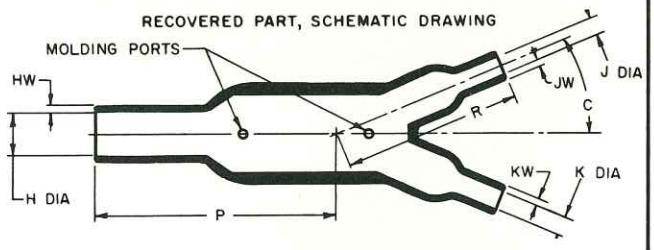


TABLE OF DIMENSIONS

Catalog Number	H MIN X	H MAX R	J AND K MIN X	J AND K MAX R	P MAX X	P ±10% R	R MAX X	R ±10% R	HW MAX X	HW ±20% R	JW AND KW MAX X	JW AND KW ±20% R	C ±10° X	C ±5° R
TYT-493-12	.52	.24	.26	.12	–	.88	–	.76	–	.06	–	.04	10	22½
TYT-493-13	1.06	.52	.52	.24	–	1.81	–	1.55	–	.10	–	.06	10	22½
TYT-493-14	1.52	1.06	1.06	.49	–	2.58	–	3.22	–	.12	–	.10	10	22½

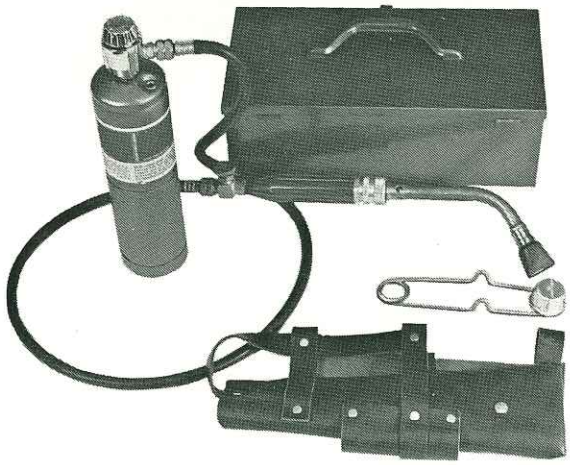
X = EXPANDED
R = RECOVERED

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

Rcvd - 6-20-72

COLE-FLEX

new—cole-flex propane powered portable heating torch



- Fast Application
- Prevents Scorching
- Blow-out Proof
- Economical
- Portable

Due to the ever increasing applications of Heat Shrinkable products requiring the use of a heating method where electric power is not available for hot air guns, COLE-FLEX has designed a new Propane Powered Portable Torch for field use.

The ordinary gas powered torch produces a sharply focused "hot spot" in its flame which is the major cause of difficulties encountered in heat shrinkable products — scorching — unevenness — splitting.

COLE-FLEX's GUN-2 Torch has been specially engineered to eliminate these "hot spots." It is the most effective portable heat shrinking torch ever developed. GUN-2 will rapidly shrink all sizes and types of shrinkable products without scorching or deterioration by precisely pre-blending and regulating the air/gas mixture and with a unique turbo-combustion feature GUN-2 will produce an even, diffused flame resulting in an overall "toasting" effect on the surface of the shrinkable product.

Another feature of the GUN-2 Assortment is the body holster which enables the user to stow the torch, tank, igniter and hose assembly on his belt leaving both hands free when working on pole-lines, or in underground installations.

Fittings on GUN-2 will mate with all conventional propane tanks such as Bernzomatic, etc.

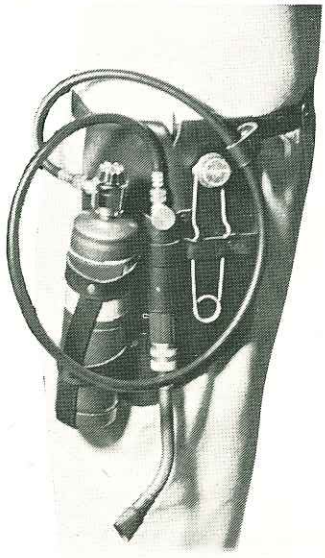
GUN-2 TORCH ASSEMBLY CONSISTS OF:

1-Torch Tip with Flared End
2-Handle with Shut Off Valve
3-4 Foot Hose with Pre-Set Pressure Regulator at Tank End
4-1 lb. Tank Propane
5-Leather Holster
6-Igniter Striker
7-Metal Carrying Case

Longer Hoses, Larger Capacity Tanks and Various Tips Available On Request.

INDUSTRIAL USER COST

109.75



COLE-FLEX CORPORATION
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COLE-FLEX

NEW – light-weight heat gun for shrinkable tubing

A REVOLUTIONARY NEW PORTABLE ELECTRIC HEAT GUN FOR HEAT-SHRINK APPLICATIONS:

- modern design
- light weight
- compactness
- quiet
- maneuverable
- versatile
- reliable
- no maintenance
- fast, easy repair
- low cost

Brief Specification and Description

TOTAL WEIGHT (including cord set): 2 lbs.

OVERALL HEIGHT; LENGTH; THICKNESS (Max): 7.50″ x 6.50″ x 2.75″

OVERALL LENGTH (with deflector): 7.75″

NOISE LEVEL: Audible — None; R.F. — None

POWER REQUIREMENT 115 vac; 3A (max.): 60 cps.

HEAT OUTPUT AT 0.5″ (max.)
Measured with dry bulb: > 650°F
Measured with thermocouple: > 1000°F

CFM @ FPM: 3 @ 600

FUNCTION: Hand held or bench top without modification.

EXTERNAL CONSTRUCTION: Stainless steel; high impact polymer.

MAINTENANCE: None (Brushless, self-lubricating motor).

REPAIRABILITY: Excellent (less than ten minutes).

CATALOG NUMBER: GUN-1 — Supplied with deflector & U.L. approved 8 ft. 3 wire, grounding wire & plug.

SUGGESTED USER PRICE: $37.95

The new Heat Gun has been developed by **Cole-Flex** to answer the need for a modern, compact, reliable, and low-cost portable electric heat-gun for use in heat shrink applications. The Gun offers a unique combination of features and benefits to all users of heat-shrinkable products.

COLE-FLEX CORPORATION
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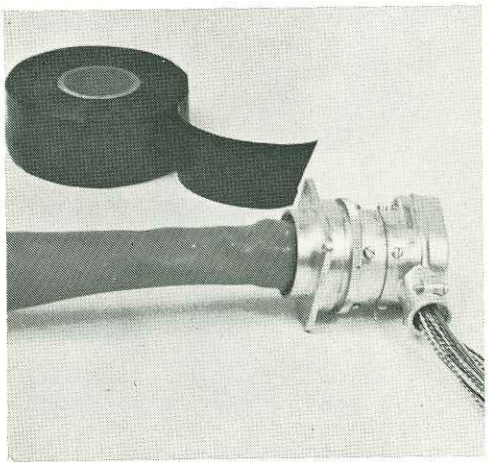
COLE-FLEX

irradiated heat shrinkable electrical tape

SHRINKS — MOLDS — ENCAPSULATES — WATERPROOFS — INSULATES
OPERATING TEMPERATURE: —55°C TO +125°C



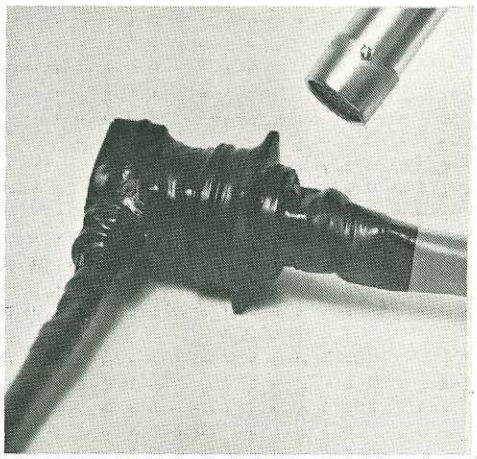
Cole-Flex Irradiated Heat Shrinkable Electrical Tape, Type TYT-100 is fabricated from an irradiated, thermally stabilized, modified polyolefin composition which is laminated to a non-irradiated polyolefin liner.

When heated in excess of 135 C (Cole-Flex GUN-1 will serve excellently) **TYT-Tape** will go through several changes. Firstly, it will start to shrink longitudinally to a maximum of 30% tightening around the object it has been wrapped. Secondly, the inner liner will soften and flow into the tape wrappings as well as the interstices of the object it surrounds. When cooled, the resulting fusion forms a tight mechanical fit, molding to itself, forming a complete encapsulating barrier. The cooled wrap cannot be peeled off. It has practically formed a homogenous mold.

Cole-Flex Tape Type TYT-100 is especially applicable to cover and insulate large unevenly shaped object where tubings cannot be used. It is ideal for cable splices and other insulating applications that require waterproofing as well as mechanical strength.

Standard width is ¾", Put up on 54 Foot Spools. Thickness of Tape is .008" Nominal. Material is self-extinguishing within 30 seconds, fungus resistant, and its tensile strength is 1200 PSI minimum. Dielectric strength is 9Kv. min. Color – BLACK

Catalog No.	Width	Thick.	Length	Color
TYT-100-¾	¾"	.008	54 Ft.	Black
TYT-100-1½	1½"	.008	54 Ft.	Black
TYT-100-3	3"	.008	54 Ft.	Black



COLE-FLEX CORPORATION
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COLE-FLEX

teflon (TFE) solid shapes

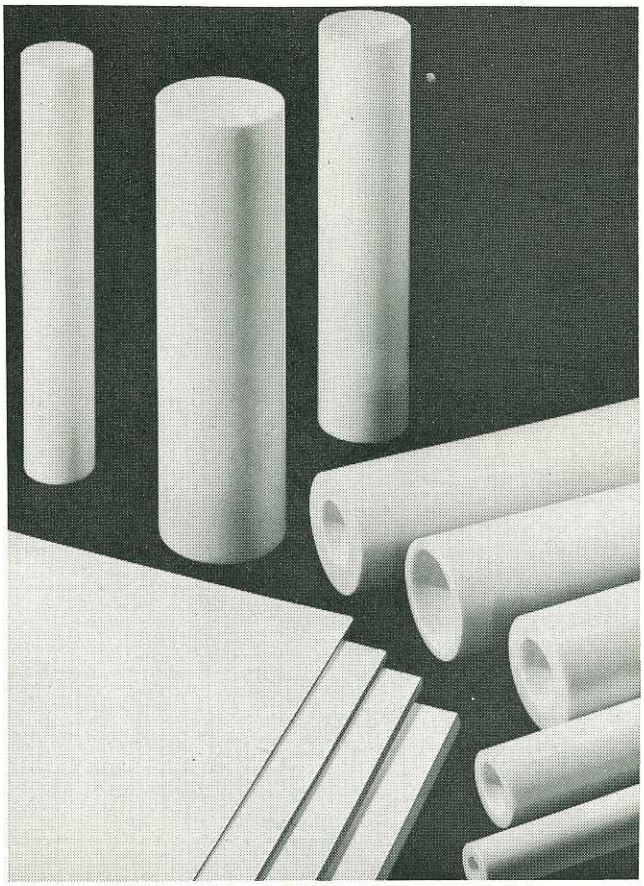
SOLID EXTRUDED ROD-

PREMIUM GRADE

Cole-flex Teflon (TFE) rods are specially engineered and extruded from pure Teflon to meet the most critical applications and requirements for industrial and electronic uses. The density of **Coleflex** TFE rods is particularly high and uniform throughout. High density gives the best physical and electrical properties, provides better machinability, and assures constancy of dimensions during use at elevated temperatures. Very close control of concentricity throughout the wide range of sizes results in minimum scrap losses.

Cole-flex rods are free from contaminants which might detract from the inherently excellent properties of virgin Teflon resins. The snow-white color permits ready inspection for contaminants which might otherwise be concealed.

Meets or exceeds applicable portions of: MIL-P-19468, AMS 3656, AMS 3651, and MIL-C-17 (for type F dielectric).



STOCK SIZES

Cole-flex Cat. No. 12″ Length	Cole-flex Cat. No. 24″ Length	Diameter	Tolerance
TRO-250-⅛″-12	TRO-250-⅛″-24	.125″	±.0005″
TRO-250-¼″-12	TRO-250-¼″-24	.250″	±.0005″
TRO-250-5/16″-12	TRO-250-5/16″-24	.313″	±.0005″
TRO-250-⅜″-12	TRO-250-⅜″-24	.375″	±.001″
TRO-250-7/16″-12	TRO-250-7/16″-24	.438″	±.001″
TRO-250-½″-12	TRO-250-½″-24	.500″	±.001″
TRO-250-9/16″-12	TRO-250-9/16″-24	.563″	±.001″
TRO-250-⅝″-12	TRO-250-⅝″-24	.625″	±.001″
TRO-250-¾″-12	TRO-250-¾″-24	.750″	±.001″
TRO-250-⅞″-12	TRO-250-⅞″-24	.875″	+.003-0″
TRO-250-1″-12	TRO-250-1″-24	1.0″	+.003-0″

MOLDED SHEETS-

PREMIUM GRADE

QUALITY

(a) Dimensionally stable (less than 1/10 of 1% change after heating sheet to 600°F. and cooling it back to room temperature).
(b) Stress-free.
(c) Exceptional flatness.
(d) Uniform density.
(e) X-ray quality.
(f) Pure white, contamination free.

SPECIFICATIONS

Cole-flex TFE sheet meets or exceeds the requirements of all applicable military and commercial specifications including AMS-3651, MIL-P-22242 and CS239-63.

GUARANTEED: Uniform density and stress relieved.

STOCK SIZES

Cole-flex Cat. No. 12″ x 12″	Cole-flex Cat. No. 24″ x 24″	Thickness	Tolerance
TSH-250-1/32″-12	TSH-250-1/32″-24	.031″	+.010.0″
TSH-250-1/16″-12	TSH-250-1/16″-24	.062″	+.012-0″
TSH-250-⅛″-12	TSH-250-⅛″-24	.125″	+.015-0″
TSH-250-¼″-12	TSH-250-¼″-24	.250″	+.018-0″
TSH-250-5/16″-12	TSH-250-5/16″-24	.313″	+.018-0″
TSH-250-⅜″-12	TSH-250-⅜″-24	.375″	+.018-0″
TSH-250-7/16″-12	TSH-250-7/16″-24	.438″	+.020-0″
TSH-250-½″-12	TSH-250-½″-24	.500″	+.020-0″
TSH-250-9/16″-12	TSH-250-9/16″-24	.563″	+.025-0″
TSH-250-⅝″-12	TSH-250-⅝″-24	.625″	+.025-0″
TSH-250-¾″-12	TSH-250-¾″-24	.750″	+.025-0″
TSH-250-⅞″-12	TSH-250-⅞″-12	.875″	+.030-0″
TSH-250-1″-12	TSH-250-1″-24	1.0″	+.030-0″

All **Cole-flex** Teflon sheets can be furnished "surface bondable" on order.

All **Coleflex** Teflon Rods and Sheets are available in a wide variety of sizes, thicknesses and diameters. Solid Colors and Glass Filled material is also available to order. Other shapes, such as, Square Rods, Hexagonal Rods, Hollow Tubes, and Round Beading can be furnished on request.

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

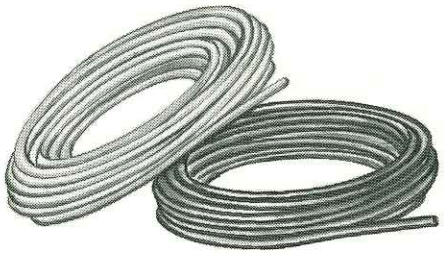
COLE-FLEX
extruded teflon tubing

CONFORMS TO MIL-I-22129B, AMS-3653, AMS-3654, CS252-63

Cole-flex Teflon Tubing is unmatched by any other type of tubing for use in electrical applications at high frequencies and temperatures. Teflon is rated for continuous operation at 250°C, and retains an exceptional toughness and its flexibility throughout its temperature range.

Because of its resistance to soldering iron temperature, **Cole-flex** Teflon Tubing will not shrink back during the soldering process. **Cole-flex** Teflon Tubing will not melt and flow as do conventional thermoplastic materials. At high frequencies, its dielectric strength is many times that of other insulating materials.

Cole-flex Teflon Tubing is chemically inert, has zero moisture absorption and its insulation resistance properties are unaffected by heat aging or temperature use up to 250°C.



ALL SIZES CAN BE FURNISHED CUT TO LENGTH ON ORDER.

TUBING CAN BE ETCHED ON THE OUTSIDE SURFACE FOR BONDING PURPOSES. CONTACT FACTORY FOR PRICES. 10 STANDARD MIL-STD-104 COLORS AVAILABLE ON ORDER.

THIN WALL (TT-250)

Cole-flex Number	Size	Nom. Inside Dia. (Inch.)	Nom. Wall Thickness (Inch.)	Stock Colors	Standard Put-Ups
TT-250/30	30	.012	.009	Natural, Black	1000′, 100′, 25′ Spools
TT-250/28	28	.015	.009	Natural, Black	1000′, 100′, 25′ Spools
TT-250/26	26	.018	.010	Natural, Black	1000′, 100′, 25′ Spools
TT-250/24	24	.022	.010	Natural, Black	1000′, 100′, 25′ Spools
TT-250/22	22	.027	.010	Natural, Black	1000′, 100′, 25′ Spools
TT-250/20	20	.034	.012	Natural, Black	1000′, 100′, 25′ Spools
TT-250/19	19	.038	.012	Natural, Black	1000′, 100′, 25′ Spools
TT-250/18	18	.042	.012	Natural, Black	1000′, 100′, 25′ Spools
TT-250/17	17	.047	.012	Natural, Black	1000′, 100′, 25′ Spools
TT-250/16	16	.053	.012	Natural, Black	500′, 100′, 25′ Spools
TT-250/15	15	.059	.012	Natural, Black	500′, 100′, 25′ Spools
TT-250/14	14	.066	.012	Natural, Black	500′, 100′, 25′ Spools
TT-250/13	13	.076	.012	Natural, Black	500′, 100′, 25′ Spools
TT-250/12	12	.085	.012	Natural, Black	500′, 100′, 25′ Spools
TT-250/11	11	.095	.012	Natural, Black	250′, 100′, 25′ Spools
TT-250/10	10	.106	.012	Natural, Black	250′, 100′, 25′ Spools
TT-250/9	9	.118	.015	Natural, Black	250′, 100′, 25′ Coils*
TT-250/8	8	.133	.015	Natural, Black	100′, 25′ Coils*
TT-250/7	7	.148	.015	Natural, Black	100′, 25′ Coils*
TT-250/6	6	.166	.015	Natural, Black	100′, 25′ Coils*
TT-250/5	5	.186	.015	Natural, Black	100′, 25′ Coils*
TT-250/4	4	.208	.015	Natural, Black	100′, 25′ Coils*
TT-250/3	3	.234	.015	Natural, Black	100′, 25′ Coils*
TT-250/2	2	.263	.015	Natural, Black	100′, 25′ Coils*
TT-250/1	1	.294	.015	Natural, Black	100′, 25′ Coils*
T-250/0	0	.330	.015	Natural, Black	100′, 25′ Coils*

STANDARD WALL (TS-250)

Similar in characteristics to TT-250 (Thin Wall Tubing), but for use in application where additional dielectric values and mechanical strength are necessary.

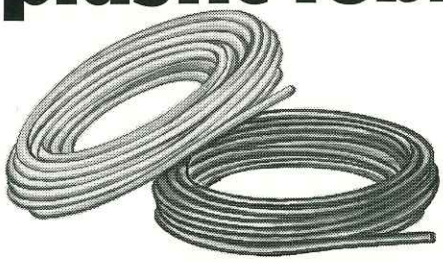
Cole-flex Number	Size	Nom. Inside Dia. (Inch.)	Nom. Wall Thickness (Inch.)	Stock Colors	Standard Put-Ups
TS-250/24	24	.022	.012	Natural Only	1000′, 100′, 25′ Spools
TS-250/22	22	.027	.012	Natural Only	1000′, 100′, 25′ Spools
TS-250/20	20	.034	.016	Natural Only	1000′, 100′, 25′ Spools
TS-250/19	19	.038	.016	Natural Only	1000′, 100′, 25′ Spools
TS-250/18	18	.042	.016	Natural Only	1000′, 100′, 25′ Spools
TS-250/17	17	.047	.016	Natural Only	1000′, 100′, 25′ Spools
TS-250/16	16	.053	.016	Natural Only	500′, 100′, 25′ Spools
TS-250/15	15	.059	.016	Natural Only	500′, 100′, 25′ Spools
TS-250/14	14	.066	.016	Natural Only	500′, 100′, 25′ Spools
TS-250/13	13	.076	.016	Natural Only	500′, 100′, 25′ Spools
TS-250/12	12	.085	.016	Natural Only	500′, 100′, 25′ Spools
TS-250/11	11	.095	.016	Natural Only	250′, 100′, 25′ Spools
TS-250/10	10	.106	.016	Natural Only	250′, 100′, 25′ Spools
TS-250/9	9	.118	.020	Natural Only	250′, 100′, 25′ Coils*
TS-250/8	8	.133	.020	Natural Only	100′, 25′ Coils*
TS-250/7	7	.148	.020	Natural Only	100′, 25′ Coils*
TS-250/6	6	.166	.020	Natural Only	100′, 25′ Coils*
TS-250/5	5	.186	.020	Natural Only	100′, 25′ Coils*
TS-250/4	4	.208	.020	Natural Only	100′, 25′ Coils*
TS-250/3	3	.234	.020	Natural Only	100′, 25′ Coils*
TS-250/2	2	.263	.020	Natural Only	100′, 25′ Coils*
TS-250/1	1	.294	.020	Natural Only	100′, 25′ Coils*
TS-250/0	0	.330	.020	Natural Only	100′, 25′ Coils*

* RANDOM LENGTHS PACKED IN 100′ ROLLS.

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N Y. 11704 • 516-249-6150

COLE-FLEX

polyvinylchloride plastic tubing



CONFORMS TO MIL-I-631D

OPERATING TEMPERATURES −20°C to +105°C

***STOCK COLORS:** 1—Clear, 2—Black, 3—White, 4—Yellow, 5—Red, 6—Green.

Type F, Form U, Grade C, Class I, Category 1.

U/L approved tubing, other colors available to order.

DESCRIPTION: The superior mechanical thermal, and electrical properties of **Cole-Flex P-105,** coupled with its economical cost have led to an ever increasing use of this all-purpose insulating material. Another major advantage of P-105 is its high degree of flexibility, which is maintained even under severe environmental conditions.

Rated for temperatures as high as 105°C, P-105 has a high dielectric strength that remains unaffected by increasing temperature throughout its range. P-105 maintains a high resistance to the agents of heat, oil, chemical corrosion and fungi with no loss in tensile strength, or flexibility. Other features include an exceptional resistance to abrasion and indefinite shelf life.

Cole-flex P-105 is compounded with first quality, non-migratory resinous type plasticizers. Carefully selected stabilizers and modifiers added in the manufacturing process, counteract chemical and environmental degradation. Under adverse conditions P-105 retains its flexibility which permits it to cling to and protect irregular shapes. An unusually simple to handle insulating material, P-105 "snakes" well under all environmental conditions.

APPLICATIONS: Designed and manufactured for general electronic, aircraft and electrical applications involving temperatures as high as 105°C. Especially useful to protect wires and cables subject to abrasion or where a flexible tubing with a high degree of resistivity to oil, chemicals or solvents is necessary.

Cole-flex Number	Size	Nom. Inside Dia. (Inch.)	Nom. Wall Thickness (Inch.)	*Stock Colors	Standard Put-Ups
P-105/24	24	.022	.012	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/22	22	.027	.012	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/20	20	.034	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/19	19	.038	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/18	18	.042	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/17	17	.047	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/16	16	.053	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/15	15	.059	.016	1 - 6	25′, 100′, 500′, 1000′ Spools
P-105/14	14	.066	.016	1 - 6	25′, 100′, 500′ Spools
P-105/13	13	.076	.016	1 - 6	25′, 100′, 500′ Spools
P-105/12	12	.085	.016	1 - 6	25′, 100′, 500′ Spools
P-105/11	11	.095	.016	1 - 6	25′, 100′, 500′ Spools
P-105/10	10	.106	.016	1 - 6	25′, 100′, 500′ Spools
P-105/9	9	.118	.020	1 - 6	25′, 100′, 500′ Spools
P-105/8	8	.133	.020	1 - 6	25′, 100′, 500′ Spools
P-105/7	7	.148	.020	1 - 6	25′, 100′, 500′ Spools
P-105/6	6	.166	.020	1 - 6	25′, 100′, 500′ Spools
P-105/5	5	.186	.020	1 - 6	25′, 100′, 500′ Spools
P-105/4	4	.208	.020	1 - 6	25′, 100′, 250′ Coils
P-105/3	3	.234	.020	1 - 6	25′, 100′, 250′ Coils
P-105/2	2	.263	.020	1 - 6	25′, 100′, 250′ Coils
P-105/1	1	.294	.020	1,2,3	25′, 100′, 250′ Coils
P-105/0	0	.330	.020	1,2,3	25′, 100′, 250′ Coils
P-105/5/16″	5/16″	.312	.025	1,2,3	25′, 100′, 250′ Coils
P-105/3/8″	3/8″	.375	.025	1,2,3	25′, 25′, 100′ Coils
P-105/7/16″	7/16″	.438	.025	1,2,3	25′, 100′ Coils
P-105/1/2″	1/2″	.500	.025	1,2,3	25′, 100′ Coils
P-105/9/16″	9/16″	.562	.030	1,2,3	25′, 50′ Coils
P-105/5/8″	5/8″	.625	.030	1,2,3	25′, 50′ Coils
P-105/3/4″	3/4″	.750	.035	1,2,3	25′, 50′ Coils
P-105/7/8″	7/8″	.875	.035	1,2,3	25′, 50′ Coils
P-105/1″	1″	1.000	.035	1,2,3	25′, 50′ Coils
P-105/1 1/8″	1 1/8″	1.125	.035	1,2	25′ Coils
P-105/1 1/4″	1 1/4″	1.250	.040	1,2	25′ Coils
P-105/1 3/8″	1 3/8″	1.375	.040	1,2	25′ Coils
P-105/1 1/2″	1 1/2″	1.500	.045	1,2	25′ Coils
P-105/1 3/4″	1 3/4″	1.750	.055	1,2	25′ Coils
P-105/2″	2″	2.000	.060	1,2	25′ Coils
P-105/2 1/4″	2 1/4″	2.250	.065	1,2	25′ Coils
P-105/2 1/2″	2 1/2″	2.500	.070	1,2	25′ Coils

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

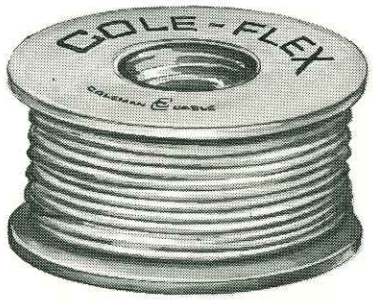
COLE-FLEX

low temperature plastic tubing

Cole-flex P-744 is a low temperature polyvinylchloride tubing manufactured in accordance with MIL-I-7444C, Type I, and Class I and II. It is unusually Clear and ideal material where readability and conductor identification is important. **P-744** reacts to ambient low temperature to minus 67°C with unusual flexibility, high cut through resistance, and unimpared clarity. Flame, fungus, and corrosion resistance are built in under MIL-I-7444C.

Cole-flex P-744 is recommended for harnessing, cable or conduit jacketing etc.

The low temperature characteristics label it as an ideal material for aircraft, airborne electronic, and missile applications.



OPERATING TEMPERATURE: −67°C to +80°C

STOCK COLOR: Clear

OTHER COLORS AVAILABLE TO ORDER.

Cole-flex Number	Size	Nom. Inside Dia. (Inch.)	Nom. Wall Thickness (Inch.)	Standard Put-Ups
P-744/24	24	.022	.012	25′, 100′, 500′, 1000′ Spools
P-744/22	22	.027	.012	25′, 100′, 500′, 1000′ Spools
P-744/20	20	.034	.016	25′, 100′, 500′, 1000′ Spools
P-744/19	19	.038	.016	25′, 100′, 500′, 1000′ Spools
P-744/18	18	.042	.016	25′, 100′, 500′, 1000′ Spools
P-744/17	17	.047	.016	25′, 100′, 500′, 1000′ Spools
P-744/16	16	.053	.016	25′, 100′, 500′, 1000′ Spools
P-744/15	15	.059	.016	25′, 100′, 500′, 1000′ Spools
P-744/14	14	.066	.016	25′, 100′, 500′ Spools
P-744/13	13	.076	.016	25′, 100′, 500′ Spools
P-744/12	12	.085	.016	25′, 100′, 500′ Spools
P-744/11	11	.095	.016	25′, 100′, 500′ Spools
P-744/10	10	.106	.016	25′, 100′, 500′ Spools
P-744/9	9	.118	.020	25′, 100′, 500′ Spools
P-744/8	8	.133	.020	25′, 100′, 500′ Spools
P-744/7	7	.148	.020	25′, 100′, 500′ Spools
P-744/6	6	.166	.020	25′, 100′, 500′ Spools
P-744/5	5	.186	.020	25′, 100′, 500′ Spools
P-744/4	4	.208	.020	25′, 100′, 250′ Coils
P-744/3	3	.234	.020	25′, 100′, 250′ Coils
P-744/2	2	.263	.020	25′, 100′, 250′ Coils
P-744/1	1	.294	.020	25′, 100′, 250′ Coils
P-744/0	0	.330	.020	25′, 100′, 250′ Coils
P-744/5/16″	5/16″	.312	.025	25′, 100′, 250′ Coils
P-744/3/8″	3/8″	.375	.025	25′, 100′ Coils
P-744/7/16″	7/16″	.438	.025	25′, 100′ Coils
P-744/1/2″	1/2″	.500	.025	25′, 100′ Coils
P-744/9/16″	9/16″	.562	.030	25′, 50′ Coils
P-744/5/8″	5/8″	.625	.030	25′, 50′ Coils
P-744/3/4″	3/4″	.750	.035	25′, 50′ Coils
P-744/7/8″	7/8″	.875	.035	25′, 50′ Coils
P-744/1″	1″	1.000	.035	25′, 50′ Coils
P-744/1 1/8″	1 1/8″	1.125	.035	25′ Coils
P-744/1 1/4″	1 1/4″	1.250	.040	25′ Coils
P-744/1 3/8″	1 3/8″	1.375	.040	25′ Coils
P-744/1 1/2″	1 1/2″	1.500	.045	25′ Coils
P-744/1 3/4″	1 3/4″	1.750	.055	25′ Coils
P-744/2″	2″	2.000	.060	25′ Coils
P-744/2 1/4″	2 1/4″	2.250	.065	25′ Coils
P-744/2 1/2″	2 1/2″	2.500	.070	25′ Coils

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

plastic impregnated fiberglass tubing

CONFORMS TO MIL-I-3190 — GRADE B

THERMAL CLASS B: (130°C). NEMA Type 3

DIELECTRIC: 4000v d.c.

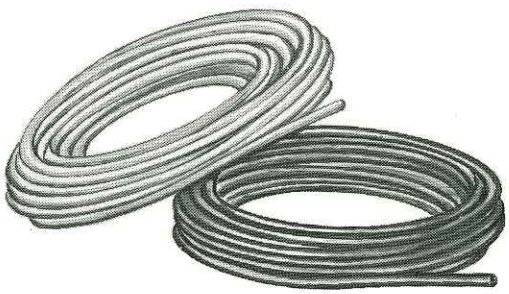
OPERATING TEMPERATURE: −20°C to +130°C

STOCK COLOR: Black.
OTHER COLORS AVAILABLE TO ORDER

STANDARD PUT-UPS:

SIZES: #24 through #19 — 25′, 100′, 500′, 1000′ Spools
#18 through #6 — 25′, 100′, 500′ Spools
#5 through ½ — 25′, 100′ Spools
⅝ through 1′ — 25′ and 50′ Coils

Cole-flex Number	Size	Wall Thickness Max. (Inches)	Wall Thickness Min. (Inches)	Cole-flex Number	Size	Wall Thickness Max. (Inches)	Wall Thickness Min. (Inches)
PF-130/24	24	.022	.016	PF-130/7	7	.028	.020
PF-130/22	22	.022	.016	PF-130/6	6	.028	.020
PF-130/20	20	.022	.016	PF-130/5	5	.036	.026
PF-130/19	19	.022	.016	PF-130/4	4	.036	.026
PF-130/18	18	.022	.016	PF-130/3	3	.036	.026
PF-130/17	17	.022	.016	PF-130/2	2	.036	.026
PF-130/16	16	.028	.020	PF-130/1	1	.042	.030
PF-130/15	15	.028	.020	PF-130/0	0	.042	.030
PF-130/14	14	.028	.020	PF-130/⅜″	⅜″	.042	.030
PF-130/13	13	.028	.020	PF-130/7⁄16″	7⁄16″	.042	.030
PF-130/12	12	.028	.020	PF-130/½″	½″	.042	.030
PF-130/11	11	.028	.020	PF-130/⅝″	⅝″	.042	.030
PF-130/10	10	.028	.020	PF-130/¾″	¾″	.042	.030
PF-130/9	9	.028	.020	PF-130/⅞″	⅞″	.042	.030
PF-130/8	8	.028	.020	PF-130/1″	1″	.042	.030



PF-130 is the toughest and most pliable of insulating materials and is formulated to provide the maximum in electrical characteristics, chemical resistance, heat stability and abrasion resistance.

A Class B, Grade B, insulating material, PF-130, is recommended for conditions requiring continuous operation at temperatures up to 130°C. Prolonged baking at this high temperature does not affect the tubing's retention of color.

The tubing is constructed from an inorganic fiberglass base sleeving coated with a heat resistant, extremely flexible, tough plastic insulation.

PF-130 has excellent "cut-through" characteristics and is heat-treated to permanently set the glass fibers assuring perfect roundness and ends that will not fray, when cut. Neither the fiberglass base sleeving nor the plastic coating will support combustion.

APPLICATIONS: Because of its toughness and flexibility the material is widely used where tubing is subject to bending, knotting, and high torque. PF-130 will not peel or crack or lose its dielectric values even under conditions involving extreme abuse.

Other applications include use in electric motors, generator or resistor leads where maximum push-back of insulation is desirable.

COLE-FLEX CORPORATION
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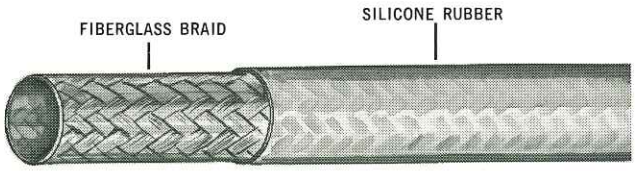
COLE-FLEX

silicone rubber coated fiberglass tubing



Where extreme flexibility is required at temperatures to −85°C., Silicone Rubber Coated Glass Sleeving will do an outstanding job. Flexibility is also maintained at 200°C. Use it in any application requiring Class H insulation and exceptional flexibility in extreme temperature ranges.

TEMPERATURE RESISTANCE

Silicone-Glass Sleeving is designed for continuous operation at 400°F. Rubber coated type maintains flexibility down to −85°C. (−121°F.). No change in electrical or physical properties when exposed to 600°F. for short periods. Meets NEMA and ASTM Burning Rate requirements.

FRAY-PROOF

The braided fiberglass strands which form the base of Tubing, are heat set. The ends cut cleanly and do not fray. Frayless ends, super smooth inside bores, and good push-back make for easy telescoping and assembly.

DURABLE

Silicone-Glass is tough and can take an unusual amount of abrasion and scuffing in stride. Gives dependable physica protection as well as superior insulation. Lasts a lifetime.

THERMAL CLASS H: for 200°C operation. NEMA Type 5.

GRADE A-1: 8000v. Dielectric.

MEETS MILITARY SPECIFICATIONS:
MIL-I-3190 and I-18057.

OPERATING TEMPERATURE RANGE: −85°C to 200°C.

STOCK COLOR: Natural
OTHER COLORS AND GRADES AVAILABLE TO ORDER.

STANDARD PACKAGE:
#24 through #15 — 100′, 500′ and 1000′
#14 through #7 — 100′ and 500′
#6 through ⅝ — 36″ Lengths in packages of 25′ and 100′

Cole-flex Number	Size Number (Nema Standard)	Inside Diameter Inches Max.	Inside Diameter Inches Min.	Wall Thickness and Tolerance
SF-200-24	24	.027	.020	.020 ± .004
SF-200-22	22	.032	.025	.020 ± .004
SF-200-20	20	.039	.032	.020 ± .004
SF-200-18	18	.049	.040	.020 ± .004
SF-200-17	17	.054	.045	.020 ± .004
SF-200-16	16	.061	.051	.024 ± .004
SF-200-15	15	.067	.057	.024 ± .004
SF-200-14	14	.072	.064	.024 ± .004
SF-200-13	13	.080	.072	.024 ± .004
SF-200-12	12	.089	.081	.024 ± .004
SF-200-11	11	.101	.091	.024 ± .004
SF-200-10	10	.112	.102	.024 ± .004
SF-200-9	9	.124	.114	.024 ± .004
SF-200-8	8	.141	.129	.024 ± .004
SF-200-7	7	.158	.144	.024 ± .004
SF-200-6	6	.178	.162	.024 ± .004
SF-200-5	5	.198	.182	.028 ± .005
SF-200-4	4	.224	.204	.028 ± .005
SF-200-3	3	.249	.229	.028 ± .005
SF-200-2	2	.278	.258	.028 ± .005
SF-200-1	1	.311	.289	.028 ± .005
SF-200-0	0	.347	.325	.028 ± .005
SF-200-⅜″	⅜″	.399	.375	.034 ± .006
SF-200-7/16″	7/16″	.462	.438	.034 ± .006
SF-200-½″	½″	.524	.500	.034 ± .006
SF-200-⅝″	⅝″	.655	.625	.034 ± .006

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

polyester-acrylic coated sleeving

NEMA TYPE 6

THERMAL CLASS F: For 155°C Operation.

MILITARY SPECIFICATION: MIL-I-3190, Grade C-1, 2500v

STOCK COLOR: Natural.

Other Colors and Grades available to order.

STOCK PUT-UPS:

SIZES: #24 through #15 — 100′, 500′ and 1000′

#14 through #7 — 100′ and 500′

#6 through 1″ 36 inch Lengths in packages of 25 and 100 feet

Cole-flex-AF-155 is a full rated class F (155°C) electrical insulation, manufactured by impregnating and coating a finely braided heat annealed fiberglass sleeving with a dielectric film of polyester-acrylic resin. **Cole-flex-AF-155** is recommended as a **universal coated sleeving for all thermal requirements from Class F (155°C) down through Class B (130°C) and to Class A (105°C).**

Cole-flex-AF-155 sleeving has **superior mechanical and electrical properties,** providing its fully rated dielectric values during and after the most severe handling in your application. It is **fully compatible** with all magnet wire coating — polyester, acrylic, polyimide, polyamide epoxy, phenolic and formvar, proven in application and laboratory test, in both sealed and unsealed systems.

Cole-flex Number	NEMA Std. Size No.	Nom. I.D.	Cole-flex Number	NEMA Std. Size No.	Nom. I.D.
AF-155-24	24	.022	AF-155-6	6	.166
AF-155-22	22	.027	AF-155-5	5	.186
AF-155-20	20	.034	AF-155-4	4	.208
AF-155-18	18	.042	AF-155-3	3	.234
AF-155-17	17	.047	AF-155-2	2	.263
AF-155-16	16	.053	AF-155-1	1	.294
AF-155-15	15	.059	AF-155-0	0	.338
AF-155-14	14	.066	AF-155-3/8″	3/8″	.387
AF-155-13	13	.076	AF-155-7/16″	7/16″	.450
AF-155-12	12	.085	AF-155-1/2″	1/2″	.512
AF-155-11	11	.095	AF-155-5/8″	5/8″	.640
AF-155-10	10	.106	AF-155-3/4″	3/4″	.768
AF-155-9	9	.118	AF-155-7/8″	7/8″	.893
AF-155-8	8	.133	AF-155-1″	1″	1.018
AF-155-7	7	.148			

fiberglass tubing

THERMAL CLASS C: for 240° operation

STOCK COLOR: Natural (Silver Colored)

STANDARD PUT-UP: 100 feet

Heat Treated Fiberglass Tubing is a unique custom braided fiberglass sleeving designed specifically for high temperature applications. In temperatures as high as 1200°F. This tubing will maintain its basic properties and do the job in your particular application.
A custom heat treatment gives non-fraying qualities that make it ideal in high heat where extremely short lengths are used.

Cole-flex Number	NEMA Std. Size No.	Nom. I.D.	Approx. Wall (Inches)	Cole-flex Number	NEMA Std. Size No.	Nom. I.D.	Approx. Wall (Inches)	Cole-flex Number	NEMA Std. Size No.	Nom. I.D.	Approx. Wall (Inches)
F-240-24	24	.022	.012	F-240-11	11	.095	.015	F-240-1	1	.294	.018
F-240-22	22	.027	.012	F-240-10	10	.106	.015	F-240-0	0	.338	.018
F-240-20	20	.034	.012	F-240-9	9	.118	.015	F-240-3/8″	3/8″	.387	.022
F-240-18	18	.042	.012	F-240-8	8	.133	.015	F-240-7/16″	7/16″	.450	.022
F-240-17	17	.047	.013	F-240-7	7	.148	.015	F-240-1/2″	1/2″	.512	.022
F-240-16	16	.053	.013	F-240-6	6	.166	.015	F-240-5/8″	5/8″	.640	.022
F-240-15	15	.059	.015	F-240-5	5	.186	.015	F-240-3/4″	3/4″	.768	.022
F-240-14	14	.066	.015	F-240-4	4	.208	.015	F-240-7/8″	7/8″	.893	.022
F-240-13	13	.076	.015	F-240-3	3	.234	.018	F-240-1″	1″	1.018	.022
F-240-12	12	.085	.015	F-240-2	2	.263	.018				

COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

medical and laboratory grade P.V.C. (vinyl) tubing

Cole-Flex Vinyl Tubing Type P-150 is a non-toxic polyvinylchloride extrusion formulated and compounded from high quality F.D.A. sanctioned materials. P-150 Tubings are **Water Clear** and extruded to close dimensional tolerances. An exclusive high slip formulation permits an exceptionally smooth inner wall surface with nominal particle seizure. Series P-150 have a high flexibility index which permit it to grip glass and metals as well as bending readily to sharp radius.

Can be sterilized at 215°F 30 minutes at 15 lbs pressure. **Elongation** is 400%. **Tensile** 2000PSI. **Hardness** Shore A Durometer 60-63. No toxicity, odor or taste. Has good resistance to acids and weak alkalies and many other chemicals. Self-extinguishing flame characteristics.

STOCK COLOR- -Water Clear. Other Tints to Order

Other formulations available to order for applications requiring less flexible tubings or tubings able to withstand vacuum or pressures.

HEAVY WALL — NON TOXIC

Cole Flex Cat. No.	Inside Diameter (inches)	Outside Diameter (inches)	Wall Thickness (inches)	Standard Package
P150- 1/16 -1	1/16	1/8	1/32	1000′ Reel
P150- 1/16 -2	1/16	3/16	1/16	1000′ Reel
P150- 3/32 -1	3/32	5/32	1/32	1000′ Reel
P150- 3/32 -2	3/32	7/32	1/16	1000′ Reel
P150- 1/8 -1	1/8	3/16	1/32	1000′ Reel
P150- 1/8 -2	1/8	1/4	1/16	1000′ Reel
P150- 5/32 -1	5/32	7/32	1/32	500′ Reel
P150- 5/32 -2	5/32	9/32	1/16	500′ Reel
P150- 3/16 -1	3/16	5/16	1/16	500′ Reel
P150- 3/16 -2	3/16	3/8	3/32	500′ Reel
P150- 3/16 -3	3/16	7/16	1/8	100′ Reel
P150- 1/4 -1	1/4	3/8	1/16	500′ Reel
P150- 1/4 -2	1/4	7/16	3/32	100′ Reel
P150- 1/4 -3	1/4	1/2	1/8	100′ Reel
P150- 5/16 -1	5/16	7/16	1/16	100′ Reel
P150- 5/16 -2	5/16	1/2	3/32	100′ Reel
P150- 5/16 -3	5/16	9/16	1/8	100′ Reel
P150- 3/8 -1	3/8	1/2	1/16	100′ Reel
P150- 3/8 -2	3/8	9/16	3/32	100′ Reel
P150- 3/8 -3	3/8	5/8	1/8	100′ Reel
P150- 7/16 -1	7/16	9/16	1/16	100′ Reel
P150- 7/16 -2	7/16	5/8	3/32	100′ Reel
P150- 7/16 -3	7/16	11/16	1/8	100′ Reel
P150- 1/2 -1	1/2	5/8	1/16	100′ Reel
P150- 1/2 -2	1/2	11/16	3/32	100′ Reel
P150- 1/2 -3	1/2	3/4	1/8	100′ Reel
P150- 1/2 -4	1/2	13/16	5/32	100′ Reel
P150- 9/16 -1	9/16	3/4	3/32	100′ Reel
P150- 9/16 -2	9/16	13/16	1/8	100′ Reel
P150- 9/16 -3	9/16	7/8	5/32	100′ Reel
P150- 5/8 -1	5/8	13/16	3/32	100′ Reel
P150- 5/8 -2	5/8	7/8	1/8	100′ Reel
P150- 5/8 -3	5/8	15/16	5/32	100′ Reel
P150- 11/16 -1	11/16	7/8	3/32	100′ Reel
P150- 11/16 -2	11/16	15/16	1/8	100′ Reel
P150- 11/16 -3	11/16	1″	5/32	100′ Reel
P150- 3/4 -1	3/4	1	1/8	50′ Reel
P150- 3/4 -2	3/4	1 1/16	5/32	50′ Reel
P150- 7/8 -1	7/8	1 1/8	1/8	50′ Reel
P150- 7/8 -2	7/8	1 3/16	5/32	50′ Reel
P150-1″ -1	1″	1 1/4	1/8	50′ Reel
P150-1 -2	1	1 5/16	5/32	50′ Reel
P150-1 -3	1	1 3/8	3/16	50′ Reel
P150-1 -4	1	1 1/2	1/4	50′ Reel

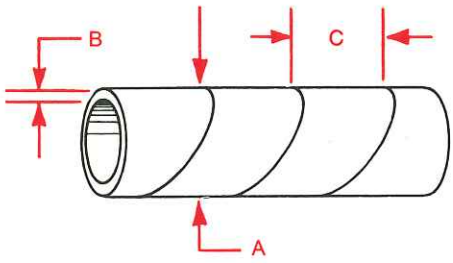
COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

spirally cut tubing

for cable harnessing and wire bundling

Cole-Flex SPI-CUT Tubing is manufactured from various semi-rigid plastic materials each designed to perform excellently under a wide range of environmental conditions. The basic plastic material is formed as a tube in the conventional fashion, but then cut spirally to provide a flexible wrapping over cables, wire bundles, or harnesses. **SPI-CUT Tubing** is expandable allowing few sizes to cover a broad range of diameters. It holds tightly around the material it has been wrapped and can be applied without the use of special tools. Other advantages permit individual lead offs or additions at any point; it unwraps easily for changing cable make-up or tap-off positions; only 4 sizes will accommodate cable diameters from 1/16" to 4; retains elasticity and shape through any numbers of applications.



POLYETHYLENE (NATURAL)

Natural (Clear Polyethylene is used for general applications where there are no unusual or special environmental conditions. **Cole-Flex SPI-CUT Type SPN** meets the following specifications and standards: ASTM D 1248-65T, Type 1, Class A, Grade 3; Federal Spec. L-P-390, Type 1, Class L, Grades 1, 2, 3; Federal Spec. L-P-390, Type 11, Class L, Grade 4; MIL-E-16400 "Temperature Conditions" Classes 1, 2, 3, 4; MIL-P-3803; MIL-I-631C and MIL-E-5400F.

Catalog No.	O.D. Nom. Dimen. A (Inches)	Wall Thickness Dimen. B (Inches)	Pitch Dimen. C (Inches)	Diameter Range (Inches)	Stock Put-ups
SPP-⅛	.125	.032	1/16	-½	25'-100'-500
SPP-¼	.250	.045	3/32	-2	25'-100'-500
SPP-⅜	.375	.055	⅜	-3	25'-100'-250
SPP-½	.500	.062	½	-4	25'-100'-250

ULTRAVIOLET AND WEATHER RESISTANT POLYETHYLENE (BLACK)

Cole-Flex SPI-CUT Type SPB contains special additives enabling it to resist the effects of ultra-violet and general weathering. Meets: ASTM D 1248-65T, Type 111, Class C, Grade 3; Federal Specs. L-P-390, Type 111, Class L Grade 6b; MIL-E-5400F.

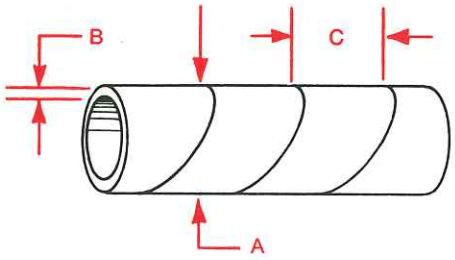
Catalog No.	O.D. Nom. Dimen. A (Inches)	Wall Thickness Dimen. B (Inches)	Pitch Dimen. C (Inches)	Diameter Range (Inches)	Stock Put-ups
SPB-⅛	.125	.032	1/16	-½	25'-100'-500'
SPB-¼	.250	.045	3/32	-2	25'-100'-500'
SPB-⅜	.375	.055	⅜	-3	25'-100'-250'
SPB-½	.500	.062	½	-4	25'-100'-250

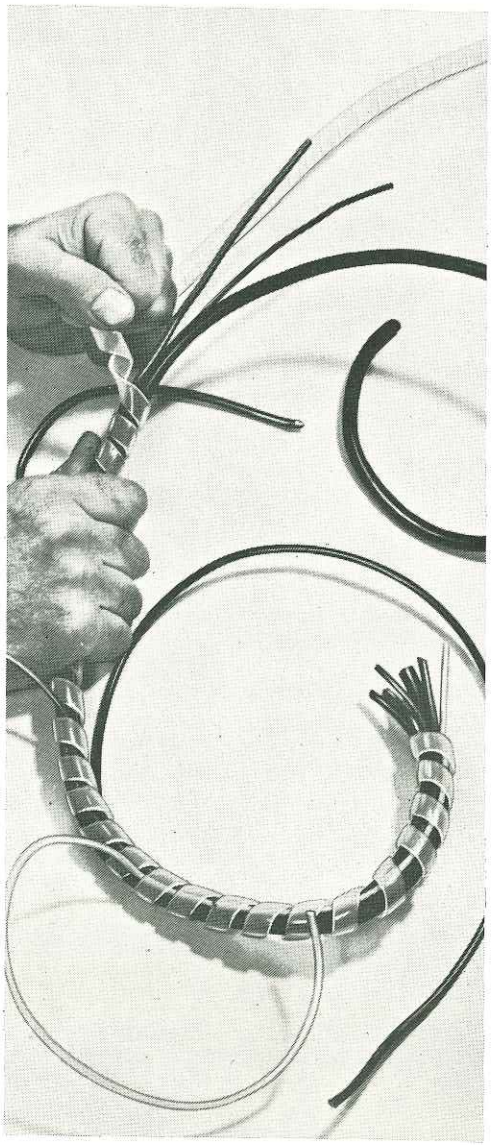
COLE-FLEX CORPORATION
91 Cabot Street • West Babylon, N. Y. 11704 • 516-249-6150

COLE-FLEX

spirally cut tubing

for cable harnessing and wire bundling





FIRE RESISTANT SELF-EXTINGUISHING POLYETHYLENE (RULAN) WHITE

Type SPR (Rulan) is a polyethylene material with special additives to make it fire resistant. It is used primarily where a low cost self-extinguishing material is required. Meets ASTM D 635; UL-70; MIL-E-5400F.

Catalog No.	O.D. Nom. Dimen. A (Inches)	Wall Thickness Dimen. B (Inches)	Pitch Dimen. C (Inches)	Diameter Range (Inches)	Stock Put-ups
SPR-⅛	.125	.032	1/16	-½	25'-100'-500'
SPR-¼	.250	.045	9/32	-2	25'-100'-500'
SPR-⅜	.375	.055	⅜	-3	25'-100'-250'
SPR-½	.500	.062	½	-4	25'-100'-250'

NYLON

Natural Nylon SPI-CUT Tubing Type SPN is used for moderate temperature applications up to 240°F (121°C) at continuous duty and can withstand up to 300°F (149°) of 600 hours max. Meets: MIL-17091B and MIL-P-20693 (Nylon Material). For applications involving exposure to direct sunlight for long periods weather resistant nylon with carbon black additive is recommended. Price and delivery on request.

Catalog No.	O.D. Nom. Dimen. A (Inches)	Wall Thickness Dimen. B (Inches)	Pitch Dimen. C (Inches)	Diameter Range (Inches)	Stock Put-ups
SPN-⅛	.125	.030	1/16	-½	25'-100'-500
SPN-¼	.250	.030	9/32	-2	25'-100'-500
SPN-⅜	.375	.030	⅜	-3	25'-100'-250
SPN-½	.500	.030	½	-4	25'-100'-250

TEFLON

For high temperature applications to 500°F (260°C) at continuous duty the use of **TFE Teflon* SPI-CUT Tubing** is recommended. Extremely inert, non toxic, highly resistant to both high and low temperatures, **Type SPT** will be ideal. Stock color is Natural.

Catalog No.	O.D. Nom. Dimen. A (Inches)	Wall Thickness Dimen. B (Inches)	Pitch Dimen. C (Inches)	Diameter Range (Inches)	Stock Put-ups
SPT-⅛	.125	.030	¼	'-½'	25'-100'
SPT-¼	.250	.030	⅜	-2	25'-100'
SPT-⅜	.375	.030	7/16	-3	25'-100'
SPT-½	.500	.030	9/16	-4	25'-100'

*Reg. DuPont Trade Name

COLE-FLEX CORPORATION

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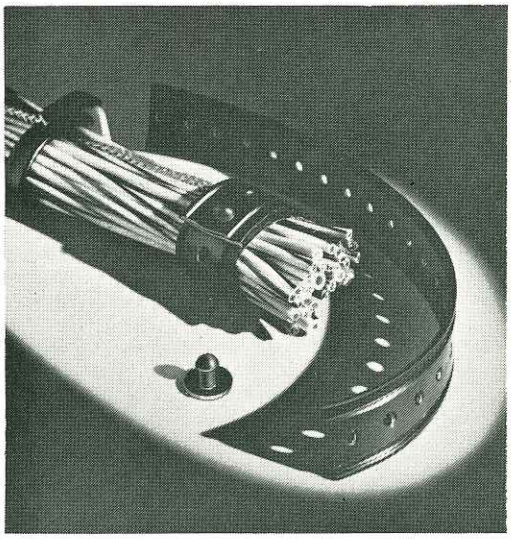
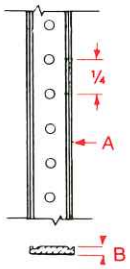
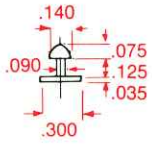
COLE-FLEX

pre-punched vinyl cable strapping





Strapping



Stud

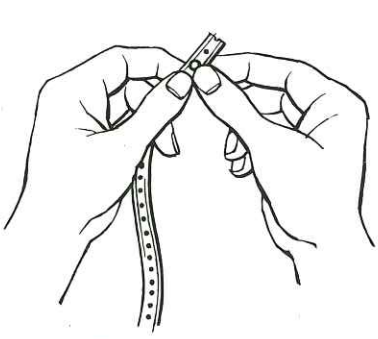
Cole-Flex Pre-punched Vinyl (PVC) Strapping is a widely used versatile system for bundling and harnessing wire and cables. The use requires no tools since it consists of only two components; a nylon stud (like the old time collar button) and a tough elasticized **PVC strapping** with pre-punched holes every ¼ inch. It is lighter and stronger than metal straps and is the simplest, fastest and least expensive method of any tying system with the added advantage of permitting simple and quick changes. To install: just wrap the strap, push in the stud with your fingers, and snip. Can be snapped open for any changes then re-tied. May also be used for hanging tubings, pipes, or any other objects around which it will fit.

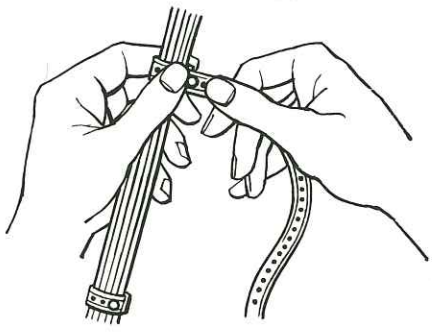
The strapping is plasticized virgin PVC with unusual strength and elastic properties. The stud is molded of nylon and is designed to securely lock the strapping, yet permit changes easily.

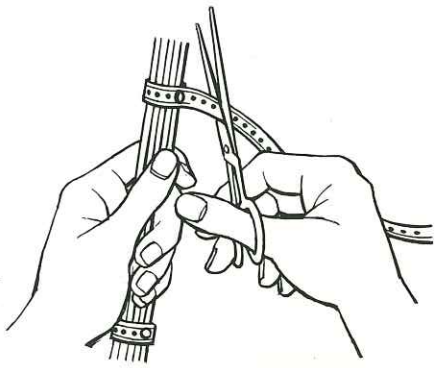
The standard color for both the strapping and the stud is BLACK. **Cole-Flex Strapping Series CS-1 and 2** meets NASA requirements for cable strapping used in space vehicle ground support equipment. Meets MIL-I-631C Type F, Grade a.

Each standard Spool of Strapping is packaged with sufficient Studs to provide 3 ties per foot. Thus a 100 Foot Spool will contain with it a bag containing 300 Studs. Additional Studs may also be ordered as a separate item.

Catalog Number	Description	Width Dimen. A (Inches)	Thickness Dimen. B (Inches)	Standard Spools
CS-1	PVC Strapping	5/16	.035	100' and 500'
CS-2	PVC Strapping	½	.050	100' and 500'
STD	Black Nylon Stud	—	—	100 and 1000







COLE-FLEX CORPORATION
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COLE-FLEX

electronic lacing cords and tapes

FLAT BRAIDED TAPE: This tape has been specifically designed to create a wider contact area with the insulation, so that it does not flow away from the contact point. It is more flexible and easier on the user's hands. When knotted it will not slip, and is recommended for all types of harness work.

ROUND TWISTED CORD: This type, while it may be used for plastic and rubber insulated wire, is particularly suited for wire having a secondary insulation or those utilizing a textile as an insulating material.

ROUND NYLON CORD

Cole-flex Cat. No.	Class	Type	Tensile Strength	Finish	Nom. Diam. (Inches)	Yards Per Pound	Standard Put-up	Stock Colors
C-113	I	P TWINE	70 lbs.	MW	.050	560	8 oz. Spools	White, Black
C-114	II	P TWINE	48 lbs.	MW	.035	750	8 oz. Spools	White, Black
C-115	III	P TWINE	32 lbs.	MW	.030	1180	8 oz. Spools	White, Black

FLAT NYLON TAPE

Flat braided Hi-Tenacity Nylon Fiber impregnated with (MW) microcrystalline fungicidal wax. Engineered to stay flat. Distributes stress evenly over a wide area. Resistant to fungus, flame, abrasion, acids. Will not cut or damage insulation. Has strength, toughness and stability.

PUT UP ON 500 YARD SPOOLS

MIL-T-43435
Type-1 Polyamide (Nylon)

Cole-flex Cat. No.	Lbs. Test	Width	Thickness	Size	Colors
C-138	135	.225″	.014″	1	Black and White
C-136	50	.090″	.012″	3	Black and White
C-134	25	.062″	.012″	4	Black and White

FLAT DACRON TAPE

Flat braided Dacron Fiber impregnated with a G.E. Finish Does not contain mercury or copper. Resistant to fungus, acids, abrasion, plus less elongation and no appreciable discoloration.

PUT UP ON 500 YARD SPOOLS

MIL-T-43435
Type-2 Polyester (Dacron)

Cole-flex Cat. No.	Lbs. Test	Width	Thickness	Size	Colors
C-160	135	.225″	.014″	1	Black and White
C-162	50	.090″	.014″	3	Black and White
C-164	25	.062″	.010″	4	Black and White

All Flat Tapes also available in Synthetic Rubber, GE, A60M Finishes.

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